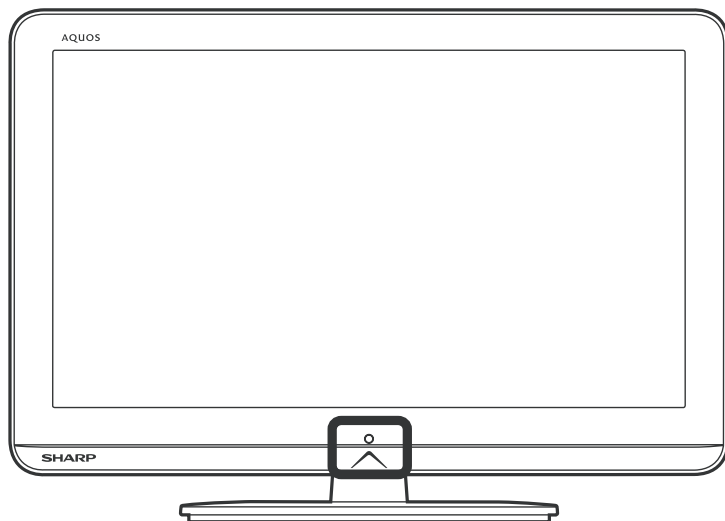


SHARP**SERVICE MANUAL**

No.

**LED COLOUR TELEVISION****LC-19LE320****LC-22LE320****LC-26LE320****LC-32LE320****LC-37LE320****MODELS LC-42LE320**

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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Parts marked with  " are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for
after sales service only.

The contents are subject to change without notice.

SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

- Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:

WARNING

- For continued safety, no modification of any circuit should be attempted.
- Disconnect AC power before servicing.

CAUTION:

FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.

42" F901 (T6.3AH/250V)

26"/32" F901 (T5AH/250V)

BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

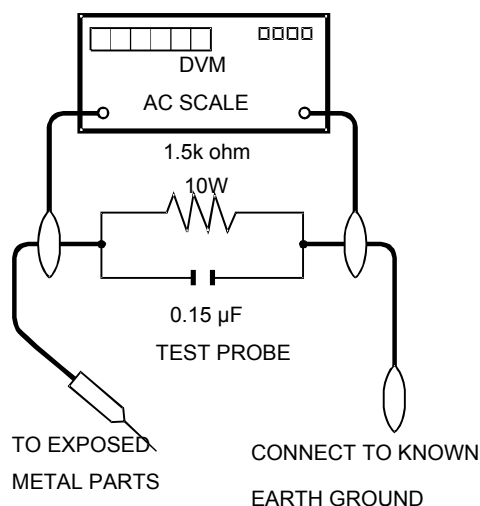
Before returning the receiver to the user, perform the following safety checks:

- Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
- Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
- To be sure that no shock hazard exists, check for leakage current in the following manner.
 - Plug the AC cord directly into a 220~240 volt AC outlet.
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.

- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)

Any reading of 1.05 V peak (this corresponds to 0.7 mA peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



SAFETY NOTICE

Many electrical and mechanical parts in LCD color television have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor

can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by “⚠” and shaded areas in the Replacement Parts List and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

Precautions for using lead-free solder

Using lead-free wire solder

- When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 °C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

Soldering

- As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 °C which is higher than the conventional lead solder by 40 °C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

- Be careful when replacing parts with polarity indication on the PWB silk.

CHAPTER 1. OPERATION MANUAL

[1] SPECIFICATIONS

Specification

Item			19" LCD COLOUR TV, Model: LC-19LE320E	22" LCD COLOUR TV, Model: LC-22LE320E	26" LCD COLOUR TV, Model: LC-26LE320E
LCD screen size			19" diagonal	22" diagonal	26" diagonal
Number of dots			3,147,264 dots (1366 × 768 × 3 dots)	6,220,800 dots (1920 × 1080 × 3 dots)	3,147,264 dots (1366 × 768 × 3 dots)
Video Colour System			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60		
TV Function	TV-Standard	Analogue	CCIR (B/G, I, D/K, L/L')		
		Digital	DVB-T (2K/8K OFDM), DVB-C		
	Receiving Channel	VHF/UHF	ATV : IRA-E69, DVB-T : E5-E69		
		CATV	S-band, S1–S41ch		
	TV-Tuning System		Auto Preset 999 ch, Auto Label, Auto Sort		
	STEREO/BILINGUAL		NICAM/A2		
Audio amplifier			3W × 2	3W × 2	5W × 2
Speaker			TBD	TBD	TBD
Rear	Antenna		UHF/VHF 75Ω		
	RS-232C		D-sub 9 pin male connector		
	SCART		SCART (AV input, Y/C input, RGB input, TV output)		
	PC IN		D-sub 15 pin (AV input), Ø 3.5mm jack (Audio input)		
	Component		Y/Pb(Cb)/Pr(Cr), RCA pin (L/R)		
	SPDIF OUT		Digital audio output		
	AV OUT		RCA pin (AV output)		
	HDMI 1		Digital video and audio input		
Side	C. I. (Common Interface)		EN50221, R206001, CI Plus specification		
	AV IN		RCA pin (AV input)		
	USB		Software update, multi-media play		
	Headphones		Ø 3.5mm jack (Audio output)		
	HDMI 2		Digital video and audio input		
OSD language			English, German, French, Italian, Dutch, Spanish, Greek, Portuguese, Swedish, Finnish, Russian, Polish, Turkish, Hungarian, Czech, Slovak, Danish, Norwegian, Estonian, Latvian, Lithuanian, Slovenian, Bulgarian, Croatian, Romanian, Serbian, Ukrainian, Gaelic, Belarussian.		
Power Requirement			AC 220–240 V, 50 Hz		
Power Consumption			TBD	30W (Standby < 0.3W) (Method IEC62087)	TBD
Weight			TBD (Without stand), TBD (With stand)	TBD (Without stand), TBD (With stand)	TBD (Without stand), TBD (With stand)
Operating temperature			0°C to + 40°C		

- As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

NOTE

- Refer to the inside back cover for dimensional drawings. □□
- Audio cannot be output through the HDMI terminal.

Item			32" LCD COLOUR TV, Model: LC-32LE320E	37" LCD COLOUR TV, Model: LC-37LE320E	42" LCD COLOUR TV, Model: LC-42LE320E
LCD screen size			32" diagonal	37" diagonal	42" diagonal
Number of dots			6,220,800 dots (1920 × 1080 × 3 dots)	6,220,800 dots (1920 × 1080 × 3 dots)	6,220,800 dots (1920 × 1080 × 3 dots)
Video Colour System			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60		
TV Function	TV-Standard	Analogue	CCIR (B/G, I, D/K, L/L')		
		Digital	DVB-T (2K/8K OFDM), DVB-C		
	Receiving Channel	VHF/UHF	ATV : IRA-E69, DVB-T : E5-E69		
		CATV	S-band, S1–S41ch		
	TV-Tuning System		Auto Preset 999 ch, Auto Label, Auto Sort		
	STEREO/BILINGUAL		NICAM/A2		
Audio amplifier			10W × 2	10W × 2	10W × 2
Speaker			TBD	TBD	TBD
Rear	Antenna		UHF/VHF 75Ω		
	SCART 1		SCART (AV input, Y/C input, RGB input, TV output)		
	SCART 2		SCART (AV input, Y/C input, monitor output [analogue source - ATV, SCART 1, SIDE AV; digital source - DTV])		
	PC IN		D-sub 15 pin (AV input), Ø 3.5mm jack (Audio input)		
	Component		Y/Pb(Cb)/Pr(Cr), RCA pin (L/R)		
	SPDIF OUT		Digital audio output		
	AUDIO OUT		RCA pin (L/R)		
	HDMI 1		Digital video and audio input		
	HDMI 2		Digital video and audio input		
Side	RS-232C		D-sub 9 pin male connector		
	C. I. (Common Interface)		EN50221, R206001, CI Plus specification		
	AV IN		RCA pin (AV input)		
	USB		Software update, multi-media play		
	Headphones		Ø 3.5mm jack (Audio output)		
	HDMI 3		Digital video and audio input		
OSD language			English, German, French, Italian, Dutch, Spanish, Greek, Portuguese, Swedish, Finnish, Russian, Polish, Turkish, Hungarian, Czech, Slovak, Danish, Norwegian, Estonian, Latvian, Lithuanian, Slovenian, Bulgarian, Croatian, Romanian, Serbian, Ukrainian, Gaelic,Belarussian.		
Power Requirement			AC 220–240 V, 50 Hz		
Power Consumption			TBD	TBD	TBD
Weight			TBD (Without stand), TBD (With stand)	TBD (Without stand), TBD (With stand)	TBD (Without stand), TBD (With stand)
Operating temperature			0°C to + 40°C		

- As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

NOTE

- Refer to the inside back cover for dimensional drawings. □□
- Audio cannot be output through the HDMI terminal.

[2] OPERATION MANUAL

Remote control unit

(POWER)

Press to turn the LCD TV on or enter standby mode.

(INPUT SOURCE)

Select an input source.

0-9 DIGIT BUTTONS

To select a TV channel directly.

EPG

Press this button to display electronic programme guide when watching digital channels.

PRE PR

To display the previous selected TV channel.

DTV/ATV

Press this button to switch between ATV and DTV channels.

PR LIST

Press to display a list of channels. Then press

Red button to select the digital or analogue channel list. (Only available when your input source is TV).

ECO

Press this button to set the picture with less brightness for saving energy.



Display programme information, if available.



Press to adjust the volume.



Press to toggle audio on and off. You can also press  to restore the previous volume level.



(Picture format)

Select picture format to **Auto / Normal / Zoom 1 / Zoom 2 / Wide**.

P ()

Press to select the channel.

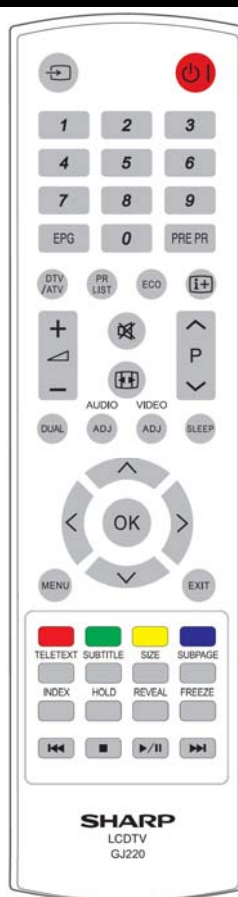
DUAL

Select **MONO / STEREO / DUAL 1 / DUAL 2** for ATV channel. Select Audio language for DTV channel.

AUDIO (ADJ)

Press to set the LCD TV to a predefined sound setting.

Personal / Music / Speech



VIDEO (ADJ)

Press to set the LCD TV to a predefined picture setting.

Personal / Standard / Vivid /

Movie / Eco

SLEEP

Press to turn the LCD TV off within an amount of time. (10 ~ 120 minutes.)



Press ooeprt to navigate and confirm your selection.

OK

Press to activate a setting.

MENU

Press to activate the LCD TV OSD.

EXIT

Press to exit the LCD TV OSD or return to the previous layer.

R/G/Y/B (COLOUR BUTTON)

Press buttons to select the pictures with various colours of text. Different channels display different functions.

TELETEXT

Press this button to activate Teletext. Press again to activate Teletext with TV.

Press again to turn off Teletext.

SUBTITLE

For DTV, press this button to toggle off / between available subtitle languages.

For ATV, press this button to toggle off / between available subtitle pages in Teletext.

SIZE

Press this button to change the font size: Full screen, Top half and Bottom half.

SUBPAGE

To select the subpage when the current page contains subpage(s).

INDEX

Press this button to return to page 100 or the index page; and then press 0 to 9. The teletext page will be numbered and added to the page you select or the secondary item.

HOLD

Press this button to stop the scrolling of pages. The text decoder stops receiving data.

REVEAL

Reveal hidden information such as answers to a quiz.

FREEZE

Press to freeze a moving image on the screen. (Only available when your input source is TV). Scart output signal will also be frozen when you are watching digital channels.

In USB mode:

(You need to programme the setting with remote control to control connected devices.)



Press to skip back to the previous title or track.



Press to stop playback.

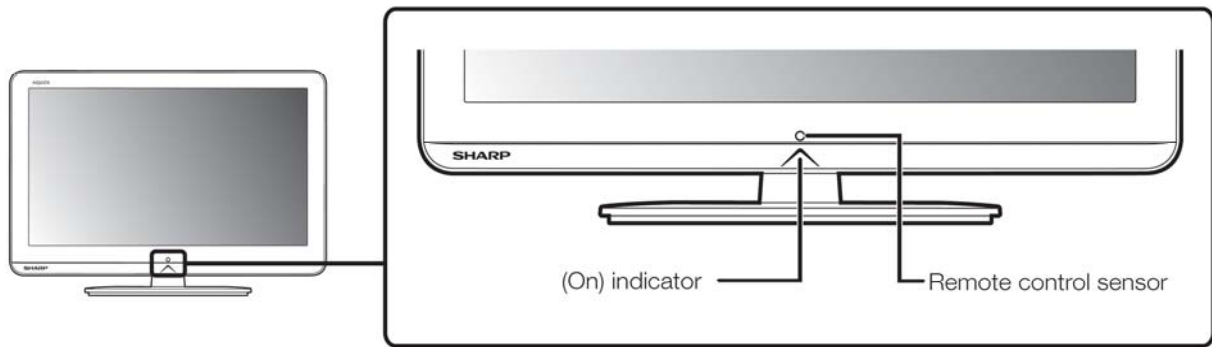


Press to start/pause playback. Caution: Do not freeze the video image for long periods of time. You may damage the TV screen.

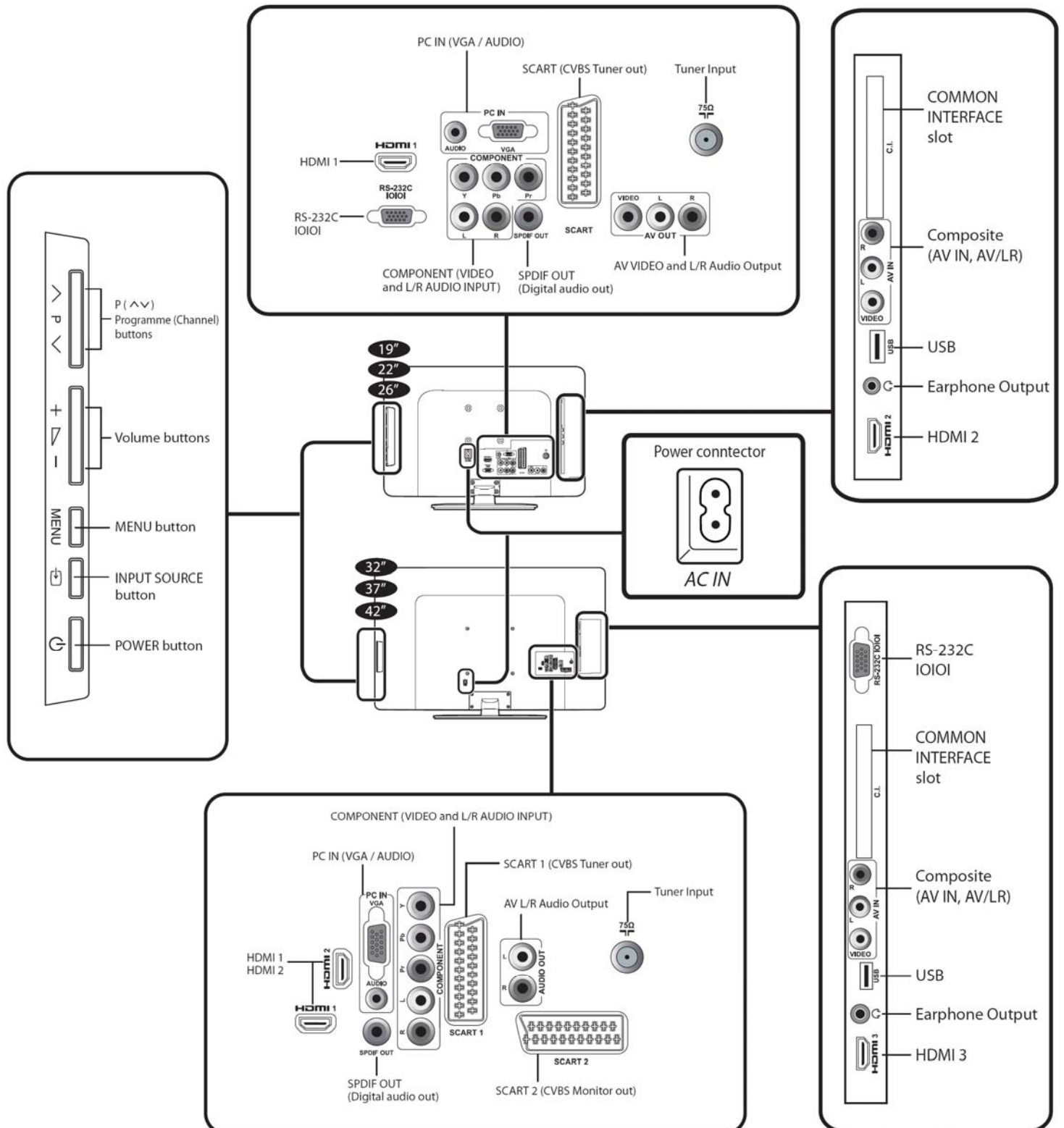


Press to skip forward to the next title or track.

TV (Front view)



TV (Rear view)



Preparation

Attaching/Detaching the Stand

- Before attaching (or detaching) the stand, unplug the AC cord from the AC INPUT terminal.
- Before performing work spread cushioning over the base area to lay the TV on. This will prevent it from being damaged.

CAUTION:

- **Attach the stand in the correct direction.**
- **Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.**

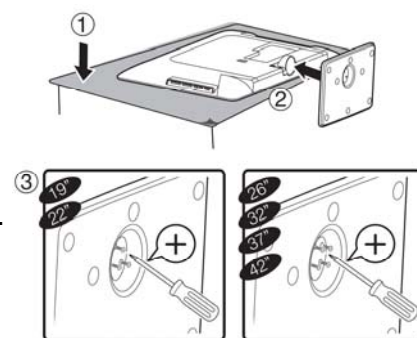
1. Put the TV face down on a safe surface that is covered by a soft and smooth cloth.
2. Adjust the TV stand to the bottom of the TV.
3. Fasten the screws by using a cross-head screwdriver(Not supplied).

CAUTION:

- **Do not push to hard or put excessive pressure to the stand neck to avoid the damages when you turn the TV for the most comfortable viewing angle.**

NOTE:

To detach the TV stand, perform the steps in reverse order.



Wall mounting

TV screen size(Inches)	VESAcompatible wall bracket(millimeters) (W x H)	Screw type
19"	75 x 75 mm	Metric 4 x 10 mm
22"	75 x 75 mm	Metric 4 x 10 mm
26"	75 x 75 mm	Metric 4 x 10 mm
32"	200 x 100 mm	Metric 6 x 10 mm
37"	200 x 200 mm	Metric 6 x 10 mm
42"	200 x 200 mm	Metric 6 x 10 mm

NOTE

- At the time of purchasing wall bracket, please check if there is enough space between the wall bracket and TV terminals for the terminal connection.

Installing Batteries in the Remote Control Unit

1. Insert two AAA batteries into Remote control. Make sure (+) and (–) are facing the proper direction.
2. Replace the cover

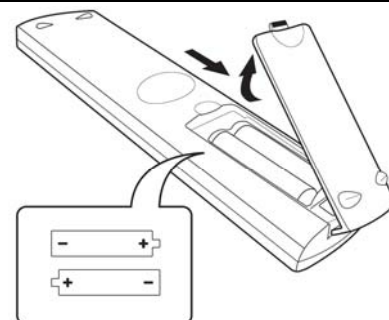
NOTE

- If the remote control will not to be used for a long time, remove the batteries to avoid remote control damage.

CAUTION:

Improper use of batteries can result in chemical leakage or explosion. Be sure to follow the instructions below.

- Do not mix batteries of different types. Different types of batteries have different characteristics.
- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
- Remove batteries as soon as they are worn out. Chemicals that leak from batteries come in contact with skin can cause a rash. If you find any chemical leakage, wipe thoroughly with a cloth.
- The batteries supplied with this product may have a shorter life expectancy due to storage conditions.



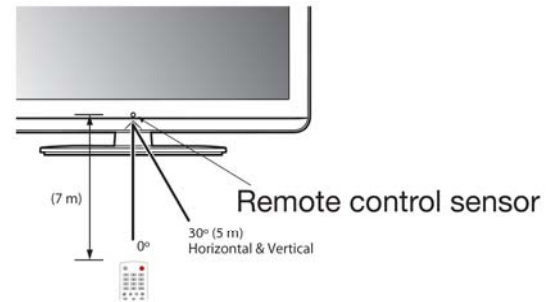
- If you will not be using the remote control unit for an extended period of time, remove batteries from it.

Note on disposing batteries:

The batteries provided contain no harmful materials such as cadmium, lead or mercury. Regulations concerning used batteries stipulate that batteries may no longer be thrown out with the household rubbish. Deposit any used batteries free of charge into the designated collection containers set up at commercial businesses.

Installing Batteries in the Remote Control Unit

Use the remote control unit by pointing it towards the remote control sensor. Objects between the remote control unit and sensor may prevent proper operation.



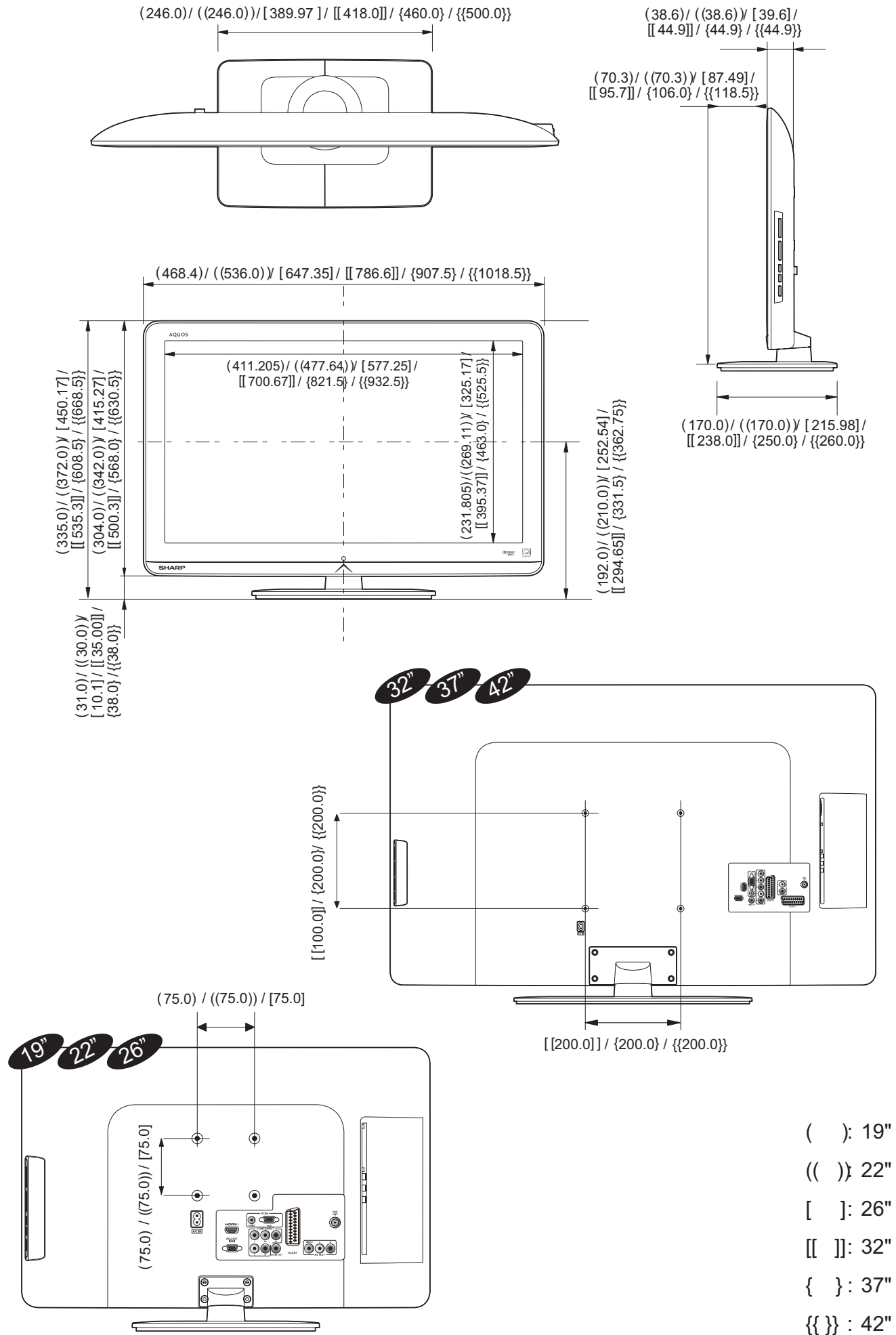
Appendix

troubleshooting

problem	possible Solution
No picture	1. Connect power cord correctly. 2. Turn on power. 3. Connect signal cable correctly. 4. Press any button on the LCD TV.
Abnormal colours	Connect signal cable correctly.
Twisted picture	1. Connect signal cable correctly. 2. Please use compatible signal.
Picture too dark	Adjust brightness and contrast.
Audio only, no images	1. Please check if input signal is connected correctly. 2. TV-RF signal must not be lower than 50dB.
Picture only, no audio	1. Connect signal cable correctly. 2. Adjust volume to proper level. 3. Connect audio signal cable correctly. 4. TV-RF signal must not be lower than 50dB.
Cannot use remote control	1. Please change battery. 2. Turn off power for 10 seconds; and then restart power.
Cannot receive sufficient channels through antenna	Please use the Channel Scan function to increase the number of channels not included in memory.
No colour	Please adjust the colour setup.
Blinking picture accompanied by ghost image	1. Check the connection of antenna/signal cable. 2. Check if channel is in play mode. 3. Press signal source and change input mode.
Broken lines or segments	Adjust antenna. Keep the TV away from noise sources, such as automobiles, neon lights, and hair dryers.
Certain TV channels are blocked(Hope to acquire some channels)	Please use the Update Scan method to add the channels not included in memory.
Overlapping images or ghost images	Please use multi-directional outdoor antenna.(If your TV is subject to the influence of nearby mountains or buildings).
Cannot use a function	If the item you choose turns gray, that item cannot be selected.
Cannot receive programmes	Please use the Update Scan method to add the channels not included in memory.

[3] DIMENSIONS

Dimension



CHAPTER 2. REMOVING OF MAJOR PARTS

[1] REMOVING OF MAJOR PARTS(LC-22LE320)

1. Assy/Panel Removal

Notes: Please put your machine on soft material to avoid to scrape panel when you disassemble it.

Front view



Fig.1

Back view



Fig.2

Step 1. Remove the Base Assy and Base neck.

1. Remove the Base Assy as Fig.3.

Remove the 3 screws as Fig.3 and pull out the base as Fig.4



Fig.3



Fig.4

2. Remove the 4 screws. Detach the Base neck as Fig.4.

Step 2. Remove the REAR COVER Assy.

1. Remove the 7 screws. Detach the REAR COVER as Fig.5.

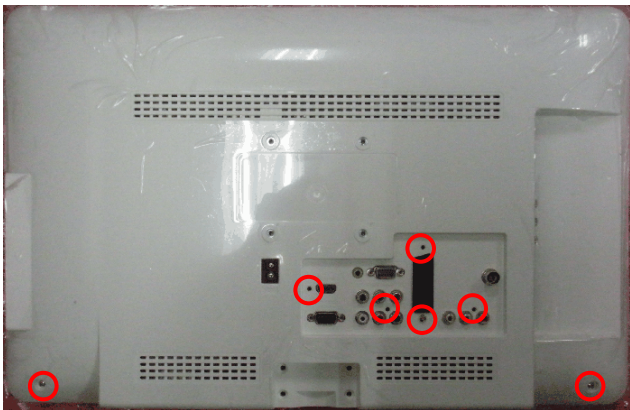


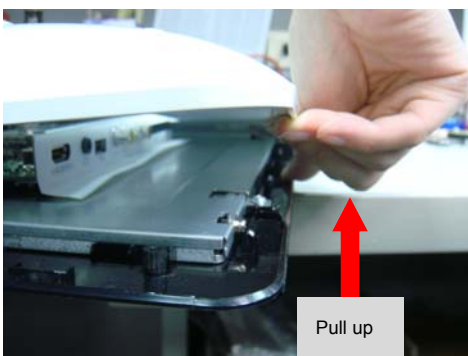
Fig.5

Note: How to easy remove rear cabinet

Put left hand on the center of rear cabinet



Right hand fingers put under the machine rim



Pull up

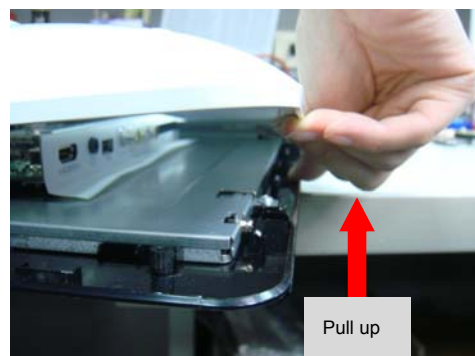
Press down



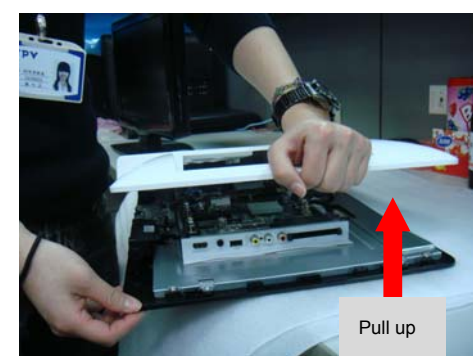
Pull up



Pull up



Pull up



Pull up

Step 3. Remove the Main, Power, Convert board and the Speakers.



Fig.6

1. Remove the 5 screws and disconnect 4 cables. Detach the Main board as Fig.7 and Fig.8.

Note: Please disconnect the LVDS cable with the panel firstly, then disconnect the LVDS with the main board.

If you disconnect the LVDS cable with the Main board firstly, maybe the panel connector will be damaged because of the short LVDS cable.

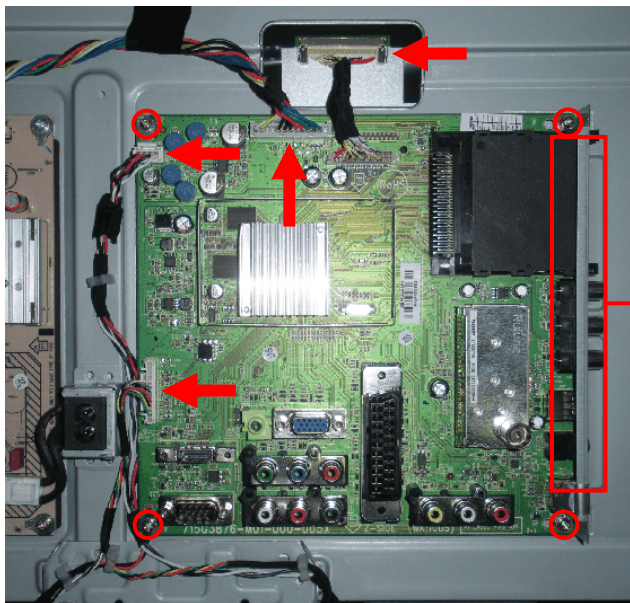


Fig.7

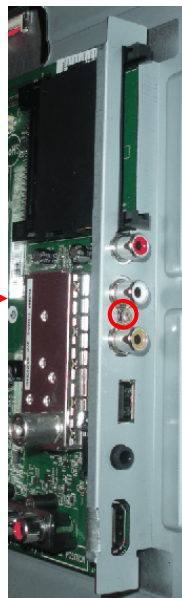


Fig.8

2. Remove the 4 screws and disconnect 3 cables. Detach the Power board as Fig.9.

Note: Move the AC port left from the Main frame assy, then disconnect the AC cable from the power board.

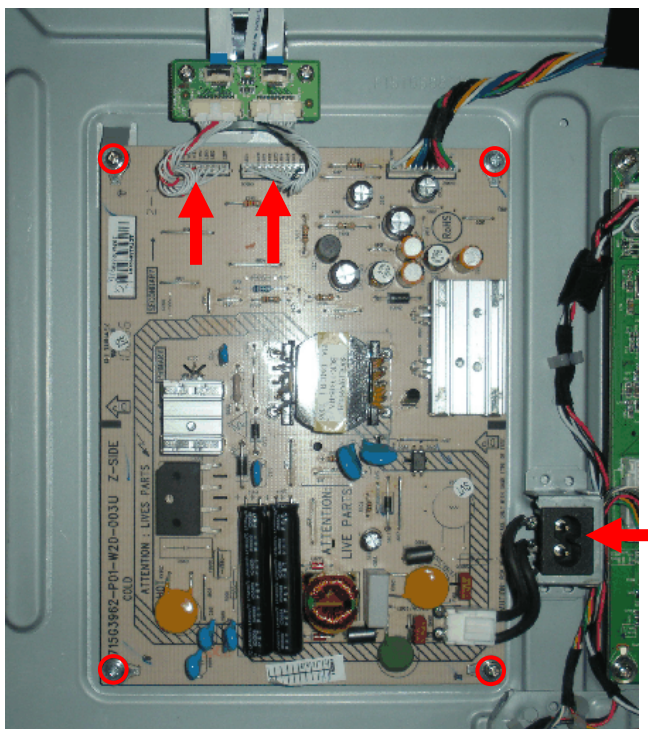


Fig.9

3. Remove the 2 screws and disconnect 2 cables. Detach the Convert board as Fig.10.

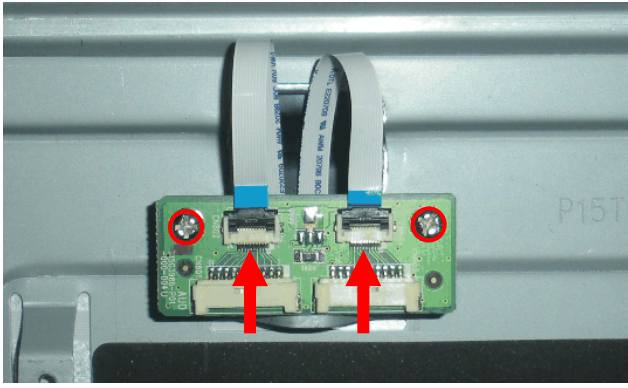


Fig.10

4. Release the speaker cable from its clamp, pull up and remove the speaker as Fig.11.



Fig.11

Step 4. Remove the Bracket and Bezel.

1. Remove the 5 screws. Detach the Bracket and panel as Fig.12.

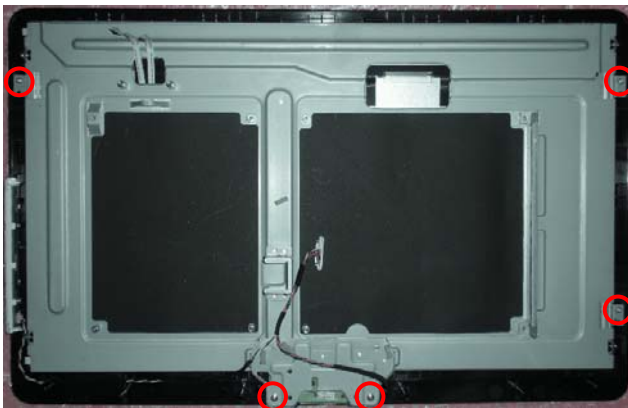


Fig.12

2. Remove the 4 screws. Detach the Main frame as Fig.13. Disconnect the two FFC cables from the panel as Fig.14



Fig.13



Fig.14

Panel:



Fig.15

Step 5. Remove the IR and Key board.

1. Remove the 2 screws and disconnect 2 cables. Detach the IR board as Fig.16.



Fig.16

2. Disconnect 1 cable. Detach the Key board as Fig.17.

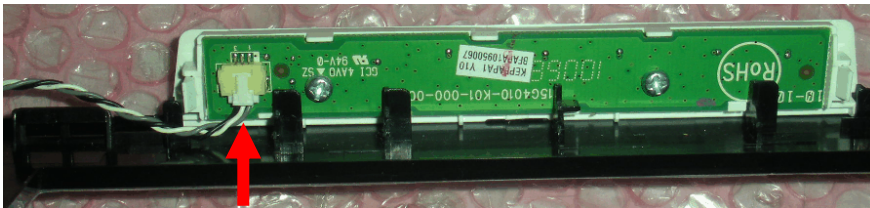


Fig.17

2. Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original position.
- Pay special attention not to damage the EMC foams at the SSB shielding. Check that EMC foams are put correctly on their places.

REMOVING OF MAJOR PARTS(LC-26LE320)

1. Assy/Panel Removal

Notes: Please put your machine on soft material to avoid to scrape panel when you disassemble it.

Front view



Fig.1

Back view



Fig.2

Step 1. Remove the Base Assy and Base neck.

1. Remove the Base Assy as Fig.3.

Remove the 4 screws as Fig.3 and pull out the base as Fig.4



Fig.3



Fig.4

2. Remove the 4 screws. Detach the Base neck as Fig.4.

Step 2. Remove the REAR COVER Assy.

1. Remove the 10 screws. Detach the REAR COVER as Fig.5.

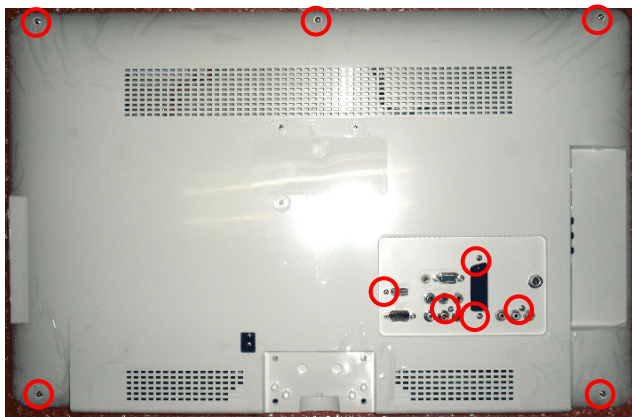
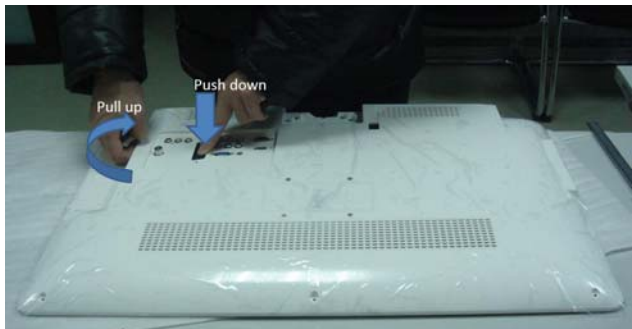


Fig.5

Note: How to easy remove rear cabinet



Step 3. Remove the Main, Power board and the Speakers.

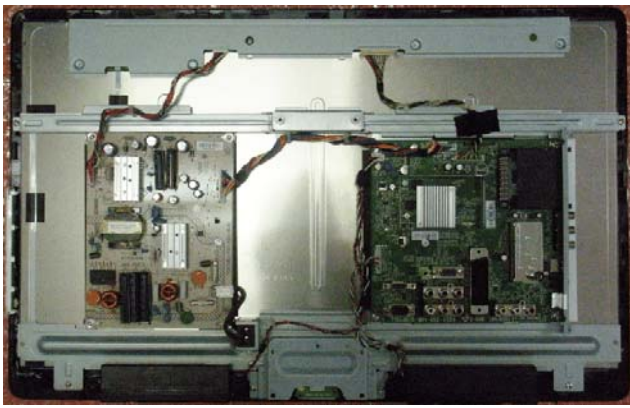


Fig.6

1. Remove the 7 screws and disconnect 4 cables. Detach the Main board as Fig.7 and Fig.8.

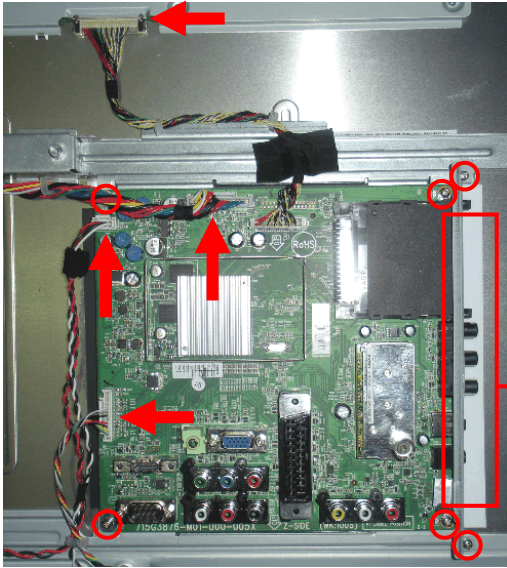


Fig.7



Fig.8

2. Remove the 4 screws and disconnect 2 cables. Detach the Power board as Fig.9.

Note: Move the AC port left from the Main frame assy, then disconnect the AC cable from the power board.

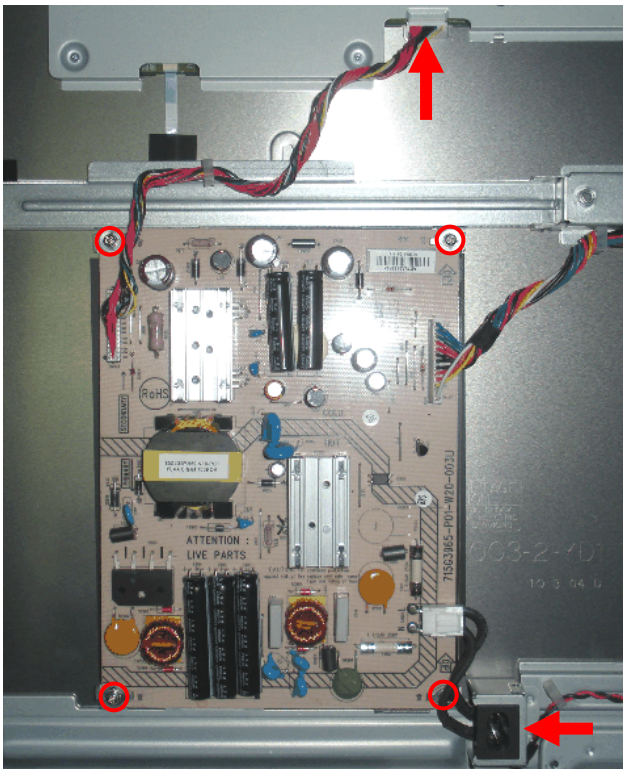


Fig.9

4. Release the speaker cable from its clamp, pull up and remove the speaker as Fig.10.



Fig.10

Step 4. Remove the Bracket and Bezel.

1. Remove the 6 screws. Detach the Bracket as Fig.11.

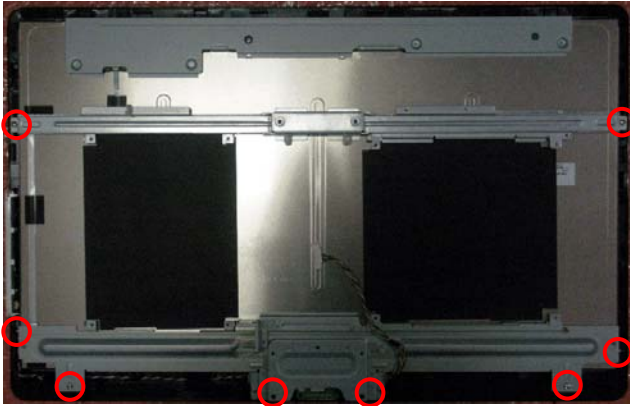


Fig.11

2. Remove the panel from the bezel as Fig.12

Panel:

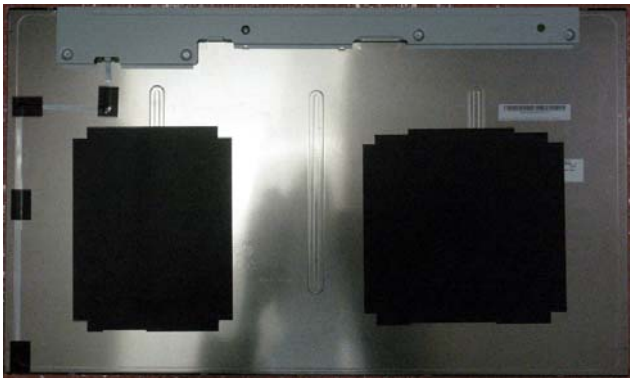


Fig.12

Step 5. Remove the IR and Key board.

1. Disconnect 2 cables, then release the clips. Detach the IR board as Fig.13.

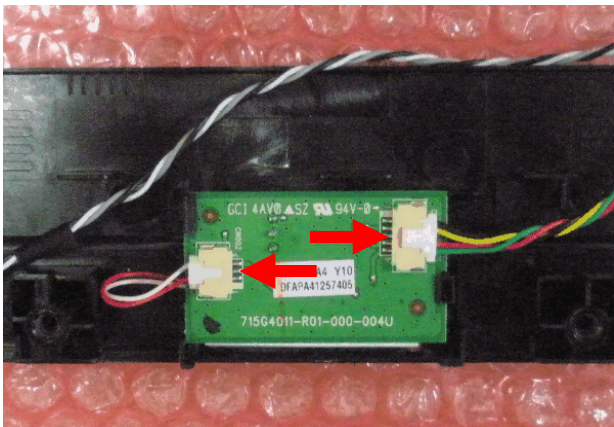


Fig.13

2. Disconnect 1 cable. Detach the Key board as Fig.17.



Fig.17

2. Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- a. While re-assembling, make sure that all cables are placed and connected in their original position.
- b. Pay special attention not to damage the EMC foams at the SSB shielding. Check that EMC foams are put correctly on their places.

CHAPTER 3. ADJUSTMENT PROCEDURE

PROCEDURE

[1] ADJUSTMENT PROCEDURE

1. OSD Menu

2K10 Sharp DVB OSD tree-Video							
OSD Layer 1	2	3	4	5	6	Note	Model
Picture	Smart Picture	Personal					All
		Standard					All
		Vivid					All
		Movie					All
		Eco					All
	Brightness	slider					All
	Contrast	slider					All
	Color	slider					All
	Tint	slider					All
	Sharpness	slider					All
	Color Temperature	Normal	(default)				All
		Cool					All
		Warm					All
	Advanced Control(have sub page)	Noise Reduction	Off				All
			Low				All
			Medium				All
			HIGH				All
			Auto				All
		Flesh Tone	On				All
			Off				All
		Back Light(if DCR is Off)	slider				All
		DCR	On				All
			Off				All
Sound	Sound Mode	Personal					All
		Music					All
		Speech					All
	Equalizer 120Hz	slider					All
	Equalizer 500Hz	slider					All
	Equalizer 1.5KHz	slider					All
	Equalizer 5KHz	slider					All
	Equalizer 10KHz	slider					All
	Balance	slider					All
	Virtual Surround	On					All
		Off					All
	Digital Audio Out	PCM					All
		Off					All
		Dolby Digital					All
	SPDIF Delay	slider(from 0 to 250, interval of 10 between two items)					All

	AVL	Off					All
		On					All
	Type(if source is DTV)	Normal					All
		Hard of Hearing					All
		Audio Description					All
	Audio Description(if Type=Audio Description)	Volume	slider				All
							All
							All
TV	Tuner Mode	Antenna					All
		Cable					All
	Country(30)	UK					All
		Italy					All
		Luxembourg					All
		Netherlands					All
		Norway					All
		Sweden					All
		Croatia					All
		Hungary					All
		Ireland					All
		Poland					All
		Portugal					All
		Romania					All
		Serbia					All
		Slovakia					All
		Slovenia					All
		Turkey					All
		Iceland					All
		Russia					All
		Ukraine					All
		Austria					All
		Belgium					All
		Bulgaria					All
		Switzerland					All
		Czech Republic					All
		Germany					All
		Greece					All
		Denmark					All
		Spain					All
		Finland					All
		France					All
	1st Audio(28)(DTV only)	English					All
		Finnish					All
		French					All
		Gaelic					All
		Galician					All
		German					All
		Greek					All

		Hungarian				All
		Italian				All
		Norwegian				All
		Polish				All
		Portuguese				All
		Romanian				All
		Russian				All
		Serbian				All
		Slovak				All
		Slovenian				All
		Spanish				All
		Swedish				All
		Turkish				All
		Welsh				All
		Basque				All
		Bulgarian				All
		Catalan				All
		Croatian				All
		Czech				All
		Danish				All
		Dutch				All
2nd Audio(28)(DTV only)		English				All
		Finnish				All
		French				All
		Gaelic				All
		Galician				All
		German				All
		Greek				All
		Hungarian				All
		Italian				All
		Norwegian				All
		Polish				All
		Portuguese				All
		Romanian				All
		Russian				All
		Serbian				All
		Slovak				All
		Slovenian				All
		Spanish				All
		Swedish				All
		Turkish				All
		Welsh				All
		Basque				All
		Bulgarian				All
		Catalan				All
		Croatian				All
		Czech				All
		Danish				All
		Dutch				All

	Audio Carrier(ATV only)	Mono					All
		Stereo					All
		Dual I					All
		Dual II					All
	Channels(have sub page)	Channel Scan	ATV	Status: scanning...			All
				Analogue channels:			All
			ATV and DTV(if Antenna mode)	Status: scanning...			All
				Analogue channels:			All
				Digital channels:			All
			ATV and DTV(if Cable mode)	Scan Mode	Full/Advance		All
				(if Advance mode select)	Frequency(KHz)		All
					Modulation =>Auto/16/32/64/128/256 QAM		All
					Symbol Rate(Ksym/s)		All
					Network ID		All
				Scan	Status: scanning...		All
					Analogue channels:		All
					Digital channels:		All
		Update Scan	Status: scanning...				All
			Analogue channels:				All
			Digital channels:				All
		Single RF Scan	RF Channel ..	slider			All
			Signal Strength..				All
			Signal Quality..				All
		Analog Manual Scan	Start Frequency	xxMHz			All
			Scan Up				All
			Scan Down				All
		Channel Skip(have sub page)	(Channel munber...)				All
		Channel Sort(have sub page)	(Channel munber...)				All
		Channel Edit(have sub page)	(Channel munber...)				All
		Decoder(for ATV)	(Channel munber...)				All
		Analog Ch Fine Tune	(Channel munber...)(have sub page)	(do fine tune)			All
Features	Menu Language(28)	English					All
		Deutsch					All
		Français					All
		Italiano					All
		Español					All
		Português					All
		Nederlands					All
		Български					All
		Dansk					All
		Suomi					All
		Svenska					All
		Norsk					All
		Polski					All
		Русский					All
		Česky					All

		Hrvatski				All
		Magyar				All
		Română				All
		Slovenský				All
		Slovenščina				All
		Srpski				All
		Türkçe				All
		Ελληνικά				All
		Gaeilge				All
		Latviski				All
		Eesti				All
		Lietuviskai				All
		українська				All
	4:3 mode	4:3				All
		16:9				All
	Picture Format(if video exist)	Auto				All
		Normal				All
		Zoom1				All
		Zoom2				All
		Wide				All
	Time (have sub page)	Time Zone	As Broadcaster			All
			GMT +0:00			All
			GMT +1:00			All
			GMT +2:00			All
			GMT +3:00			All
			GMT +3:30			All
			GMT +4:00			All
			GMT +4:30			All
			GMT +5:00			All
			GMT +5:30			All
			GMT +5:45			All
			GMT +6:00			All
			GMT +6:30			All
			GMT +7:00			All
			GMT +8:00			All
			GMT +9:00			All
			GMT +9:30			All
			GMT +10:00			All
			GMT +11:00			All
			GMT +12:00			All
			GMT +12:45			All
			GMT +13:00			All
			GMT -12:00			All
			GMT -11:00			All
			GMT -10:00			All
			GMT -9:00			All
			GMT -8:00			All
			GMT -7:00			All
			GMT -6:00			All

			GMT -5:00				All
			GMT -4:00				All
			GMT -3:30				All
			GMT -3:00				All
			GMT -2:00				All
			GMT -1:00				All
		Time(have sub page)	Auto synchronization (On/Off)				All
			Date (20xx/xx/xx)				All
			Time (xx:xx:xx)				All
			Timer (Off/On)				All
			Off Time (xx:xx:xx)				All
		Sleep Timer	Off				All
			10 Min				All
			20 Min				All
			30 Min				All
			40 Min				All
			50 Min				All
			60 Min				All
			90 Min				All
			120 Min				All
	SCART(have sub page) (Only available in SCART source)	SCART1	Auto				All
			Mixed				All
			RGB				All
			Composite				All
			S-Video				All
		SCART2(If have I/O)	Auto				All
			Composite				All
			S-Video				All
	Subtitle(have sub page)	Analog Subtitle	On				All
			On during mute				All
			Off				All
		1st Subtitle(28)	English				All
			Finnish				All
			French				All
			Gaelic				All
			Galician				All
			German				All
			Greek				All
			Hungarian				All
			Italian				All
			Norwegian				All
			Polish				All
			Portuguese				All
			Romanian				All
			Russian				All
			Serbian				All
			Slovak				All

			Slovenian				All
			Spanish				All
			Swedish				All
			Turkish				All
			Welsh				All
			Off				All
			Basque				All
			Bulgarian				All
			Catalan				All
			Croatian				All
			Czech				All
			Danish				All
			Dutch				All
		2nd Subtitle(28)	English				All
			Finnish				All
			French				All
			Gaelic				All
			Galician				All
			German				All
			Greek				All
			Hungarian				All
			Italian				All
			Norwegian				All
			Polish				All
			Portuguese				All
			Romanian				All
			Russian				All
			Serbian				All
			Slovak				All
			Slovenian				All
			Spanish				All
			Swedish				All
			Turkish				All
			Welsh				All
			Off				All
			Basque				All
			Bulgarian				All
			Catalan				All
			Croatian				All
			Czech				All
			Danish				All
			Dutch				All
		Subtitle Type	Normal				All
			Hearing Impaired				All
	Teletext Language(have sub page)	Digital Teletext Lang.	English				All
			Spanish				All
			French				All
			German				All

			Italian				All
			Danish				All
			Swedish				All
			Basque				All
			Bulgarian				All
			Catalan				All
			Croatian				All
			Czech				All
			Dutch				All
			Finnish				All
			Gaelic				All
			Galician				All
			Greek				All
			Hungarian				All
			Norwegian				All
			Polish				All
			Portuguese				All
			Romanian				All
			Russian				All
			Serbian				All
			Slovak				All
			Slovenian				All
			Turkish				All
			Welsh				All
	Decode Page Lang.	WEST EUR					All
		EAST EUR					All
		Russia					All
		Russia-2					All
		Greek					All
		Turkey					All
		Arab/Hbrw					All
		Farsian					All
		Arab					All
	Common Interface(have sub page)	(display some info & status..)					All
	HDMI Scan Info (Only available in HDMI source)	Automatic					All
		Underscan					All
		Overscan					All
	Reset Default						All
	SW Ver.						All
Parental	Password(have sub page)	Channel Block(have sub page)	(Channel munber...)				All
		Parental Guidance(have sub page)	Age Rating	18			All
				None			All
				4			All
				5			All
				6			All
				7			All
				8			All
				9			All
				10			All

				11			All
				12			All
				13			All
				14			All
				15			All
				16			All
				17			All
		Input Block(have sub page)	(Source list..) (TV,YPbPr,AV,SCAR T,PC,HDMI)				All
		Set password (have sub page)	New Password (xxxx)				All
			Confirm Password (xxxx)				All
Eco	Off						All
	On						All

2K10 Sharp DVB OSD tree--PC							
OSD Layer 1	2	3	4	5	6	Note	Model
Picture	Brightness	slider					All
	Contrast	slider					All
	Color Temperature	Normal	(default)				All
		Cool					All
		Warm					All
	Advanced Video(have sub page)	Auto Config	Auto Config				All
		Horizontal	slider				All
		Vertical	slider				All
		Phase	slider				All
		Clock	slider				All
		Resolution(if ambiguous timings)	1360*768				All
			1024*768				All
			1280*768				All
Sound	Audio Mode	Personal					All
		Music					All
		Speech					All
	Equalizer 120Hz	slider					All
	Equalizer 500Hz	slider					All
	Equalizer 1.5KHz	slider					All
	Equalizer 5KHz	slider					All
	Equalizer 10KHz	slider					All
	Balance	slider					All
	Virtual Surround	On					All
		Off					All
	Digital Audio Out	PCM					All
		Off					All
		Dolby Digital					All
	SPDIF Delay	slider(from 0 to 250, interval of 10 between two items)					All
	AVL	Off					All
		On					All
Features	Menu Language(28)	English					All
		Deutsch					All
		Français					All
		Italiano					All
		Español					All
		Português					All
		Nederlands					All
		Български					All
		Dansk					All
		Suomi					All
		Svenska					All
		Norsk					All
		Polski					All

		Русский				All
		Česky				All
		Hrvatski				All
		Magyar				All
		Română				All
		Slovenský				All
		Slovenščina				All
		Srpski				All
		Türkçe				All
		Ελληνικά				All
		Gaeilge				All
		Latviski				All
		Eesti				All
		Lietuviskai				All
		українська				All
	Picture Format	Full screen				All
		Native (if is native timing)				All
		4:3				All
	Reset Default					All
	SW Ver.					All
Parental	Password(have sub page)	Parental Guidance(have sub page)	Age Rating	18		All
				None		All
				4		All
				5		All
				6		All
				7		All
				8		All
				9		All
				10		All
				11		All
				12		All
				13		All
				14		All
				15		All
				16		All
				17		All
		Input Block(have sub page)	(Source list.) (TV,YPbPr,AV,SCAR T,PC,HDMI)			All
	Set password (have sub page)		New Password (xxxx)			All
			Confirm Password (xxxx)			All
	Clear All					All
Eco	Off					All
	On					All

2. Display adjustment

YPbPr Mode display adjustment

1 Auto color for signal slicing

1.1 General set-up

Equipment Requirements:

[Knoica Minolta CS-200](#) or equivalent instrument. Quantum Data Pattern Generator 881 or equivalent instrument.

Input requirements:

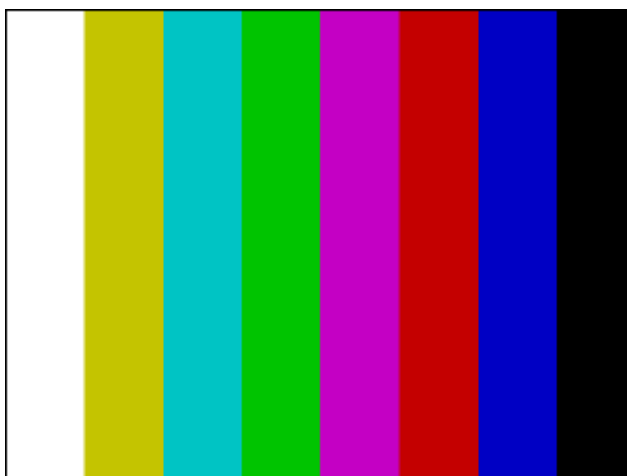
Input signal type: YPbPr signal

1. 1080i/25mode, TVBar100 pattern by QuantumData 881.
2. Select Picture mode to "Personal" mode and adjust the x, y data.

Input Signal Strength: 1 Vpp for Y signal ; 700 mVpp for Pb & Pr signal

Input Injection Point: YPbPr (RAC jack)

1080i/25, TVBar100 pattern



Alignment method:

Initial Set-up:

1. Select source as "YPbPr".
2. Set Smart Picture mode as "Personal" and then adjust Contrast = 58, Brightness=48, Color=58, set Color Temp. to be "cool" mode.
3. Apply "TVBar100" pattern which is color bar pattern by signal generator.
4. Enter "factory mode menu": press MENU + Numeric keys "1999"

Alignment:

1. At factory mode menu, select AUTO_COLOR item. Then press "OK" key of remote control to adjust ADC_GAIN_R, ADC_GAIN_G, ADC_GAIN_B and ADC_OFFSET_R, ADC_OFFSET_G, ADC_OFFSET_B. Then store those values to NVM.
2. Check the 16 grayscale pattern should be distinguished and color bar is correct
3. Reset AV setting, picture mode shall be recalled to be "Vivid" and Contrast=58, Brightness=48; Color=58.

Note:

Sharp EU 2k10 models have no need to operate "AUTO_COLOR" function, due to EFUSE is set "Disable" within NVM for default. These ADC values will be produced by Main chip (MT5363) internal definition.

White balance adjustment

Alignment method:

Initial Set-up:

1. Select source as "YPbPr".
2. Set Contrast = 58 and Brightness=48, Color=58, at normal menu mode.
3. Apply "80% white pattern or Flat 80 pattern by Component video generator.
4. Enter factory mode menu: press MENU + Numeric keys 1999".

Alignment:

1. Apply Flat80 pattern (80% white pattern).
2. Set color temperature to "NORMAL".
3. At factory mode menu, adjust the Scaler R Gain, Scaler G Gain, Scaler B Gain values to meet "NORMAL" color coordinates specification below. Then store those values to NVM
4. Set color temperature to "COOL".
5. At factory mode menu, adjust the Scaler R Gain, Scaler G Gain, Scaler B Gain values to meet "COOL" color coordinates specification below. Then store those values to NVM
6. Set color temperature to "WARM".
7. At factory mode menu, adjust the Scaler R Gain, Scaler G Gain, Scaler B Gain values to meet "WARM" color coordinates specification below. Then store those values to NVM

Color temperature Normal/Warm/Cool (x, y) co-ordinates specification:

Picture Mode	x	y
Normal (9000K)	0.289±0.003	0.291±0.003
Cool (12000K)	0.272±0.003	0.277±0.003
Warm (6500K)	0.314±0.003	0.319±0.003

Table 5: Reading with [Knoica Minolta CS-200](#).

Note:

1. Use [Knoica Minolta CS-200](#) for color coordinates and luminance check.
 2. For suitable mass production at factory, colour analyzers CA-210 can be applied. But, before measuring, all CA-210 should be coordinates and proofread with a Charoma Meter (CS-200) or equivalent instrument and a reference TV set.
 3. Check the luminance at the center of the screen with 100% White. And to set Brightness control at 100; Contrast control at 100.
- Luminance
- > 200cd/m² (Typ.) [For LC-19LE320E/RU only at color temp.- *warm mode]
 - > 200 cd/m² (Typ.) [For LC-22LE320E/RU only at color temp.- *warm mode]
 - > 400 cd/m² (Typ.) [For LC-26LE320E/RU only at color temp.- cool mode]
 - > 450 cd/m² (Typ.) [For LC-32LE320E/RU only at color temp.- cool mode]
 - > TBD cd/m² (Typ.) [For LC-37LE320E/RU only at color temp.- cool mode]
 - > TBD cd/m² (Typ.) [For LC-42LE320E/RU only at color temp.- cool mode]
4. The default values of Scaler R Gain, Scaler G Gain, Scaler B Gain are all 128. When panel WD is made adjustment, the three values could not be over 128. That is preventing color saturation after adjusting Contrast and Brightness setting at main menu.

PC mode display adjustment

1. Display quality adjustment

Use timing mode as describe in 2.2, and use the POPO (pixel on pixel off) pattern to adjust the clock until no stripe and adjust the phase until clear picture. ("Auto" will be done every time switching to PC mode and mode change) Check all preset 7 modes.

2. Auto color for signal slicing (B)

2.1 General set-up

Equipment Requirements:

[Knoica Minolta CS-200](#) or Equivalent Color analyzer. Chroma 2250 or equivalent PC signal generator.

Input requirements:

Input Signal Type:

PC VGA signal

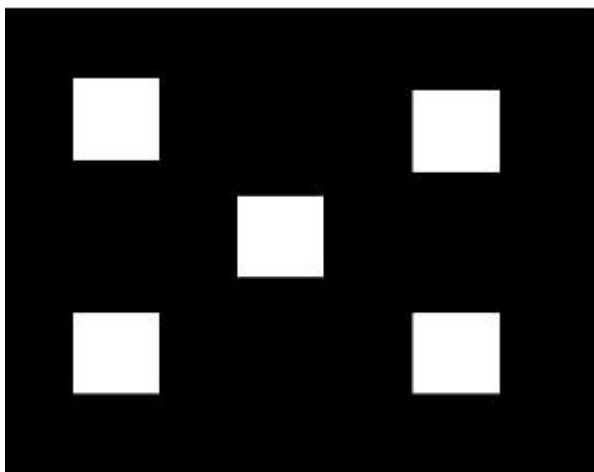
1. 1024X768/60Hz PC mode with "5 white block" pattern. (see pattern-1)

Input Signal Strength:

0.7 Vp-p linear voltage.

Input Injection Point:

PC D-SUB input



Pattern-1

Alignment method:

Initial Set-up:

1. Select source as "PC".
2. Set Contrast = 58 (Sharp) and Brightness=100 (Sharp) , at normal menu mode.
3. Apply "5 white block"(pattern-1) pattern by VGA pattern generator.
4. Enter factory mode menu: press MENU + Numeric keys "1999" (factory mode menu).

Alignment:

At factory mode menu, select AUTO_COLOR item. Then press "OK" key to adjust ADC_GAIN_R, ADC_GAIN_G, ADC_GAIN_B and ADC_OFFSET_R, ADC_OFFSET_G, ADC_OFFSET_B. Then store those values to NVM.

Set Contrast = 100 (Sharp) and Brightness=100 (Sharp)

Check color temperature specification with PC mode.

Color temperature Normal/Warm/Cool (x, y) co-ordinates specification:

Picture Mode	x	y
Cool (12000K)	0.272±0.010	0.277±0.010
Normal (9000K)	0.289±0.015	0.291±0.015
Warm (6500K)	0.314±0.015	0.319±0.015

Table 5: Reading with [Knoica Minolta CS-200](#).

Note:

1. Use [Knoica Minolta CS-200](#) for color coordinates and luminance check.
2. For suitable mass production at factory, colour analyzers CA-210 can be applied. But, before measuring, all CA-210 should be coordinates and proofread with a Charoma Meter (CS-200) or equivalent instrument and a reference TV set.
3. Check the luminance in the center of the screen with 100% White. And to Brightness control at 100; Contrast control at 100

Luminance

- > 200 cd/m² (Typ.) [For LC-19LE320E/RU only at color temp.- *warm mode]
- > 200 cd/m² (Typ.) [For LC-22LE320E/RU only at color temp.-*warm mode]
- > 400 cd/m² (Typ.) [For LC-26LE320E/RU only at color temp.- cool mode]
- > 450 cd/m² (Typ.) [For LC-32LE320E/RU only at color temp.- cool mode]
- > TBD cd/m² (Typ.) [For LC-37LE320E/RU only at color temp.- cool mode]
- > TBD cd/m² (Typ.) [For LC-42LE320E/RU only at color temp.- cool mode]

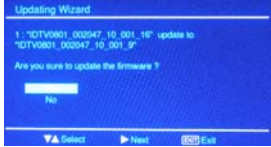
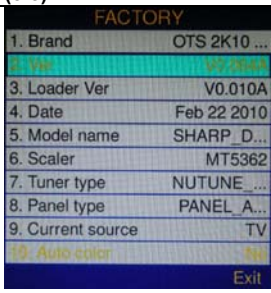
[2] SERVICE MODE

Enter factory mode menu: press MENU + Numeric keys "1999" to enter factory mode.

FACTORY	
1. Brand	OTS 2K10 ...
2. Ver	V0.075E
3. Loader Ver	V0.016A
4. Date	Mar 5 2010
5. Model name	SHARP_D...
6. Scaler	MT5362
7. Tuner type	NUTUNE_...
8. Panel type	PANEL_A...
9. Current source	TV
10. Auto color	No
Exit	

FACTORY	
32. VGA Switch	EDID
33. BAUD RATE	9600
34. VGA UART	DISABLE
35. EFUSE	DISABLE
36. Rotate Screen	DISABLE
37. Lip Sync SPK	0
38. Lip Sync HP	0
39. Lip Sync SPDIF	0
40. Update CI+	Press
41. Query CI +	Press
Exit	

[3] SOFTWARE UPGRADE PROCEDURE

Sharp model Firmware upgrade SOP by USB flash drives			
Flow chart	Step	Photo	Remark
1. Equipment and warm-up	1、USB flash drives(need USB2.0) 2、Upgrade firmware		Need USB2.0
2.Upgrade step	1、Copy the firmware from your computer to the USB flash drives.		
	2、Change firmware name to upgrade.pkg		Please check the firmware name again before rework.
	3、AC ON (Figure3.1、Figure3.2)	 (3.1)  (3.2)	
	4、Plug the USB flash drives into the USB port (service port) on the side I/O port of TV.(Figure 3.3)	 (3.3)	
	5、DC ON (You can use Keypad or Remote control power key)		
	6、When display Upgrade MENU (Figure 3.4), select "Yes" by remote control to implement update firmware	 (3.4)	If there is no display upgrade MENU,can you DC ON/OFF once more
	7、When finished upgrade 100%,Please remove the USB flash drives then press "Power" to renew the TV(Figure3.5)	 (3.5)	
	8、Press "MENU"+1999 to enter factory Menu by remote control. Then select "2.Main MCU Ver" to check upgrade firmware Version(Figure3.6)	 (3.6)	
	9、Implement "Exit" Icon to exit factory Menu . After exit factory mode, pls power off then turn off the AC power. congratulation, upgrade step is finish.		

CHAPTER 4. TROUBLESHOOTING TABLE

[1] 22" TROUBLESHOOTING TABLE

Power unit operation check.		
↓		
Are the power cord and harness in the unit properly connected?	NO →	Connect the power cord and harness properly, and turn on the power.
LINE_FILTER_UNIT: ↓ YES		
Is F901 F902 normal?	NO →	LINE_FILTER_UNIT: Isn't C908, RV901, L902, C900, C901, etc. out of order? Moreover, whether the short-circuit with the circumference circuit is checked.
POWER_UNIT ↓ YES		
Is BD901 (+320V) output?	NO →	Does the circuit operate normally? Check circuit around (BD901, Q903, ZD906, IC901, D901 etc.).
↓ YES		
Is a voltage of +5.3V applied to pin (4,5) of connector (CN902)?	NO →	Does the switching circuit operate normally? Check circuit around the primary side (T901, ZD906, D901, D903, Q903, D904, IC901, Q901, D904 etc.), the secondary side (D905, L904, C921 etc.), the DC_DET circuit (IC902, ZD903, IC903, IC901, etc.), and the protection circuit.
↓ YES		
Is a voltage of +16V applied to pin (9,10) of connector (CN902)?	NO →	Does the inverter circuit operate normally? Check circuit around (D902, L903, C914, Q908, ZD902 etc.), and the protection circuit.

The sound is not emitted from the speaker though the picture has come out.



No sound output in all modes?

TEREMINAL UNIT:



Is the audio signal output of pin (U36)(AR3), (V37)(AL3) of IC U401 normal?

NO



Check IC U401 and its peripheral circuits.

↓YES

Is audio signal input to pin (4)(LINN), pin (11)(RINN) of IC U601 (AMP)?

NO



Check the line between IC U605 and IC U601.

↓YES

Is MUTE circuit [Shutdown, OFF_MUTE] normal?

NO



Check the Mute circuit. (Q601, Q602 etc.)

↓YES

Is the audio signal output of pin (3, 4) (L-ch) and pin (1, 2) (R-ch) of CN601 (AODIO-CONNECTOR) normal?

NO



Check IC U601 and its peripheral circuits.

↓YES

Check Speaker Box (right and left) and wire harness.

No sound (during the reception of TV broadcasting)

Does not the sound go out though the picture has come out when TV is received?

MAIN UNIT:



Is the IF signal output from pin (16) and pin (17) of TUNER (TU102)?

NO →

Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Is the IF signal sent to pin (AH35) and pin (AH37) of IC U401?

NO →

Check IC U401 its peripheral circuits.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (1)

Does not the sound of the audio signal input to SCART1 go out?

TEREMINAL UNIT:



Is the audio signal properly sent to pin (6)(SCT1_AUL_IN) and pin (2)(SCT1_AUR_IN) of SCART1 (CN151)?

NO →

Check the setting of an external input device that connects of CN151

↓ YES

Is the audio signal properly sent to pin (AA32) and pin (AB33) of IC U401?

NO →

Check the line between CN151 and IC U401

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (2)

Does not the sound of the audio signal input to AV1 (Component) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (2)(AV1_AudioLIN) and pin (4)(AV1_AudioRIN) of CN116?

NO →

Check the connection to CN116 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD33) and pin (AC34) of IC U401?

NO →

Check the line between CN116 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (3)



Does not the sound of the audio signal input to AV3(Composite) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (4)(AV3_AudioLIN) and pin (6)(AV3_AudioRIN) of CN136?

NO
→

Check the connection to CN136 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD35) and pin (AB35) of IC U401?

NO
→

Check the line between CN136 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (4)



Does not the sound of the audio signal input to VGA go out?

MAIN UNIT:



Is the audio signal properly sent to pin (2)(VGA_AudioLIN) and pin (3)(VGA_AudioRIN) of CN102?

NO
→

Check the connection to CN102 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AA36) and pin (Y37) of IC U401?

NO
→

Check the line between CN102 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (5)



Does not the sound of the audio signal input to HDMI go out?



Is picture of the signal input from HDMI displayed?

NO
→

Refer to “Does not the picture of the HDMI signal input to HDMI go out?”.

↓ YES

Refer to “No sound output in all modes”.

The audio signal is not output (1)

The audio signal of UHF/VHF is not output from SCART1.

TEREMINAL UNIT:



Is audio signal output from IC U106 sent to pin (3)(SCT1_AUL_OUT) and pin(1)(SCT1_AUR_OUT) of SCART1(CN151)?

YES



Check the connection to SCART1 and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2) (1IN-) and pin (6) (2IN-)of IC U106?

YES



Check the line between IC U401 and IC U106.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (2)

No audio signal output from LINE_AUDIO_OUTPUT terminal.

TEREMINAL UNIT:



Is audio signal output from IC U107 sent to pin(4)(Audio_Line_Out_L) and pin (6)(Audio_Line_Out_R) of LINE_AUDIO_OUT connector(CN140)?

YES



Check the connection to LINE_AUDIO_OUT and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2) (1IN-) and pin (6) (2IN-)of IC U107?

YES



Check the line between IC U401 and IC U107.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (3)

No audio signal output from SPDIF_OUTPUT terminal.

TEREMINAL UNIT:



Is ASPDIF audio signal output from pin (K33) of IC U401 to pin (6) of connector CN116?

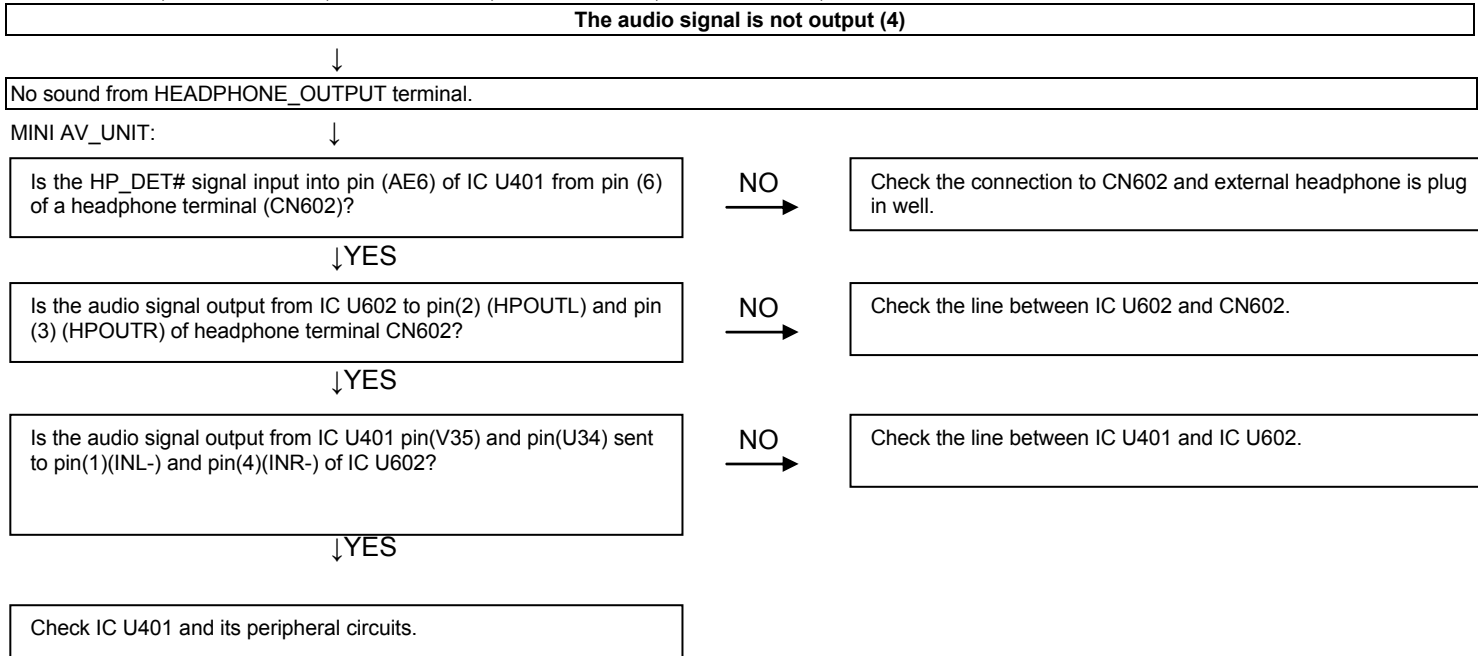
YES



Check the connection to SPDIF_OUT and external devices.

↓NO

Check IC U401 and its peripheral circuits.



No picture on the display (1)

The picture doesn't appear in all modes.

MAIN UNIT:

Is LVDS signal output from 1st_channel and 2nd_channel of IC U401 in each mode?
(A0N/A0P),(A1N/A1P),(A2N/A2P),(A3N/A3P),(CK1N/CK1P)

YES

Is the above-mentioned LVDS signals output to connector CN408?

NO →

Check IC U401 and its peripheral control circuits.

Check the line between IC U401 and CN408.

↓ YES

Is LCD controller's control signal normal?

NO →

Control signals BRIGHT_ADJ, INVERTER_ON_OFF,
PANEL_VCC_ON/OFF, and it peels off and whether normality is
checked.

PANEL_UNIT:

↓ YES

Similarly, is the LVDS signal input to connector of the panel
module?

NO →

Wire harness is checked.

↓ YES

Check the panel module.

No picture on the display (2)

Does not the picture come out when TV (Antenna) is received?

TERMINAL UNIT:

Is the voltage of regulation for a TUNER circuit and the power
supply terminal of IC U401 supplied?

NO →

Each power supply circuit is checked.

↓ YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin
(AH35), pin (AH37) of IC U401 ?

NO →

Check the tuner, IC U401 and their peripheral circuits. Replace
as required.

MAIN_UNIT:

↓ YES

Do X4150 (54.00MHz) oscillate?

NO →

Check X4150 and its peripheral circuits.

↓ YES

Refer to "The picture doesn't appear in all modes."

No picture on the display (3)



Does not the picture come out when TV (Cable) is received?

TERMINAL UNIT:



Is the voltage of regulation for a TUNER circuit and the power supply terminal of IC U401 supplied?

NO →

Each power supply circuit is checked.

↓ YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin (29), pin (30) of IC U101 ?

NO →

Check the tuner, IC U101 and their peripheral circuits. Replace as required.

↓ YES

Is MPEG data (CI_INDATA0, TSYNC, TCK) signal from pin (11), (8) (9) of IC U101 are output to IC U401?

NO →

Check IC U101 and their peripheral circuits. Replace as required.

MAIN_UNIT:

↓ YES

Do X4150 (54.00MHz) oscillate?

NO →

Check X4150 and its peripheral circuits.

↓ YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1>No picture on the display (4)



Does not the picture of the CVBS signal input to SCART1 go out?

TERMINAL UNIT:



Is CVBS signal sent to pin (20) of SCART1 (CN151)?

NO →

Check the setting of an external input device that connects of CN151.

MAIN_UNIT:

↓ YES

Is CVBS signal sent to pin (AP33) of IC U401?

NO →

Check the line between IC U401 and CN151.

↓ YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1>No picture on the display (5)

Does not the picture of the R/G/B video signal input to SCART1 go out?

TERMINAL UNIT:



Is RGB signal sent to pin (15)/R, (11)/G, (7)/B, of SCART1 (CN151)?

NO
→

Check the setting of an external input device that connects of CN151.

MAIN_UNIT:

↓YES

Is RGB signal sent to pin (AU30)/R, (AP29)/G, (AR28)/B of IC U401?

NO
→

Check the line between IC U401 and CN151.

↓YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1 >No picture on the display (6)

Does not the picture of the Y/C signal input to SCART1 go out?

TERMINAL UNIT:



Is Y/C signal sent to pin (20) and (15) of SCART1 (CN151)?

NO
→

Check the setting of an external input device that connects of CN151.

MAIN_UNIT:

↓YES

Is Y/C signal sent to pin (AP33)/Y, (AU30)/C of IC U401?

NO
→

Check the line between IC U401 and CN151.

↓YES

Refer to "The picture doesn't appear in all modes."

<External input AV3(Composite)>No picture on the display (6)

Does not the picture of the composite video signal input to AV3(Composite) go out?

TERMINAL UNIT:



Is CVBS signal sent to pin (2) of AV3 (CN136) ?

NO
→

Check the setting of an external input device that connects of CN136.

MAIN_UNIT:

↓YES

Is CVBS signal sent to pin (AU36) of IC U401?

NO
→

Check the line between IC U401 and CN136.

↓YES

Refer to "The picture doesn't appear in all modes."

Does not the picture of the HDMI signal input to HDMI1 go out?

MINI AV_UNIT:

Is the HOT_PLUG detection function of pin (19) of a HDMI terminal (CN502) normal?

NO →

Check the line between pin (AN16) of IC U401 and CN502.

↓

Check the connection and setup with the external HDMI devices.

Are EDID data pin (6)(SCL) of IC U503 (EEPROM), pin (5)(SDA) accessed, and is it read from pin (15), pin (16) of a HDMI terminal(CN502)?

NO →

Is access possible in the re-writing or exchange of EDID data of IC U503?

↓ NO

Check CN502, IC U503 and peripheral circuits.

Is TMDS signal input into pin(AP15, AT15)/RX2-2±,(AR14, AU14)/RX2-1±, (AP13, AT13)/RX2-0±, (AR12, AU12)/RX2-C± of IC U401?

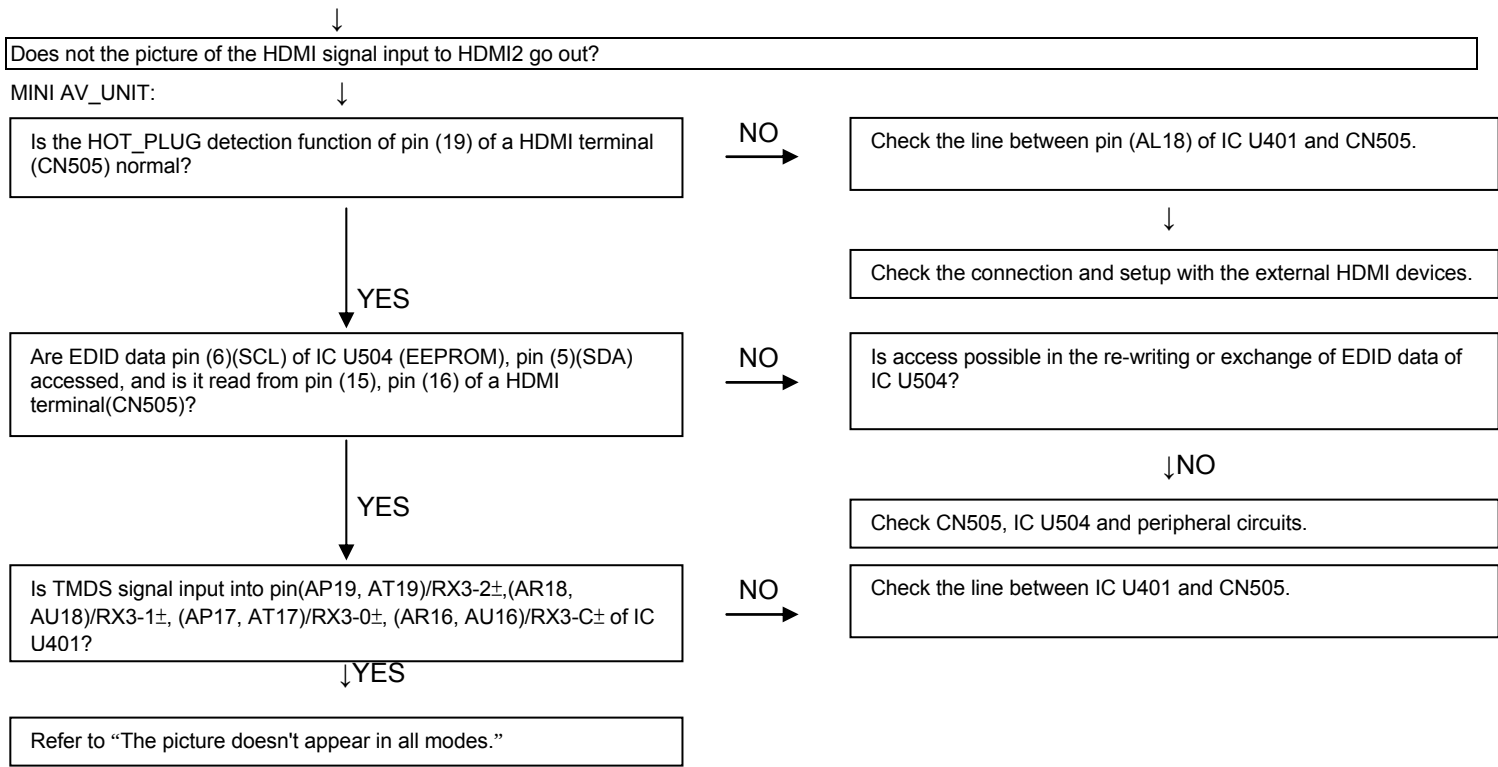
NO →

Check the line between IC U401 and CN502.

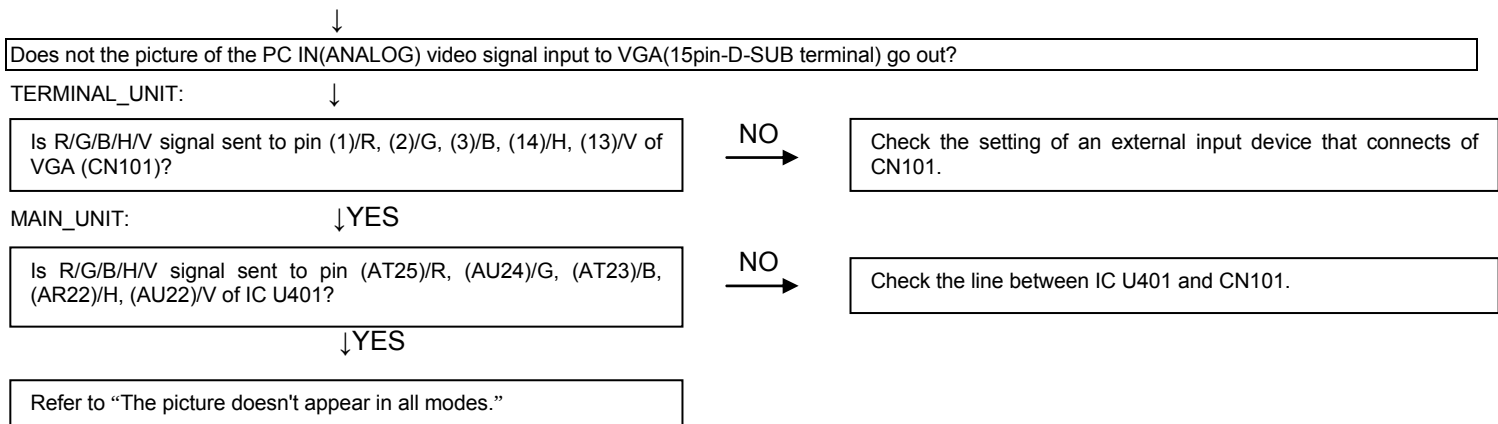
↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input HDMI2>No picture on the display (8)



<External input VGA>No picture on the display (9)



<External input AV1(Component)>No picture on the display (10)

Does not the picture of the component video signal input to Component go out?

TERMINAL_UNIT:



Is Component Y/Pb/Pr signal sent to pin (2)/Y, (4)/Pb, (6)/Pr of AV1(CN111)?

NO
→

Check the setting of an external input device that connects of CN111.

MAIN_UNIT:

↓YES

Is Component Y/Pb/Pr signal sent to pin (AU26)/Y, (AT27)/Pb, (AP27)/Pr of IC U401?

NO
→

Check the line between IC U401 and CN111.

↓YES

Refer to "The picture doesn't appear in all modes."

< During external connection > No picture on the monitor (1)

No picture appears on SCART1 - connected monitor during the tuner (U/V) reception.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "RGB", "AUTO".
- 2) Is ANT-CABLE disconnected or connected improperly? ...Connect it correctly as per the operation manual.
- 3) The picture is sent to the monitor in a CVBS signal if the source during display is ATV/DTV, CVBS or Y/C of SCART1, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 4) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 5) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (19) of CN151 (SCART1)?

YES
→

Check the setting of an external input device that connects of CN151.

↓NO

Is U401 pin (AT31) CVBS signal output into pin (19) of CN151 (SCART1)?

YES
→

Check the line between CN151 and U401.

↓NO

Refer to "The picture doesn't appear in all modes."

< During external connection > No picture on the monitor (2)

AVOUT:



No picture from SCART1 appears on AVOUT-connected monitor.

NOTE: Normally, if the screen during display is sent to SCART1, no picture is sent to AVOUT.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "AUTO".
- 2) The picture is sent to the monitor in a CVBS signal if the source during display is TV, CVBS or Y/C of SCART1, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 3) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 4) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (2) of CN140?

YES
→

Check the setting of an external input device that connects of CN140.

↓NO

Is CVBS signal output from pin (AP31) of IC U401 into pin (2) of CN140?

YES
→

Check the line between CN140 and IC U401.

↓NO

Refer to "The picture doesn't appear in all modes."

26" TROUBLESHOOTING TABLE

Power unit operation check.		
↓		
Are the power cord and harness in the unit properly connected?	NO →	Connect the power cord and harness properly, and turn on the power.
LINE_FILTER_UNIT: ↓ YES		
Is F901 F902 normal?	NO →	LINE_FILTER_UNIT: Isn't C914, RV901, RV902, L903, L905, C937, C900, C920, etc. out of order? Moreover, whether the short-circuit with the circumference circuit is checked.
POWER_UNIT ↓ YES		
Is BD901 (+320V) output?	NO →	Does the circuit operate normally? Check circuit around (BD901, Q905, ZD906, IC901, D902 etc.).
↓ YES		
Is a voltage of +5.3V applied to pin (12,13) of connector (CN905)?	NO →	Does the switching circuit operate normally? Check circuit around the primary side (T901, ZD906, D902, D905, Q905, D904, IC901, Q901, ZD904 etc.), the secondary side (D903, L902, C911 etc.), the DC_DET circuit (IC902, ZD903, IC903, IC901, etc.), and the protection circuit.
↓ YES		
Is a voltage of +24V applied to pin (1,2,3,4,5) of connector (CN903)?	NO →	Does the inverter circuit operate normally? Check circuit around (D901, L901, C908, Q903, ZD902 etc.), and the protection circuit.
↓ YES		
Is a voltage of +24V applied to pin (9,10) of connector (CN905)?	NO →	Does the inverter circuit operate normally? Check circuit around (D983, C956, FB985, etc.), and the protection circuit.
↓ YES		
Is a voltage of +12V applied to pin (4,5) of connector (CN905)?	NO →	Does the inverter circuit operate normally? Check circuit around (D985, IC905, D907, L904, C927 etc.), and the protection circuit.

The sound is not emitted from the speaker though the picture has come out.



No sound output in all modes?

TEREMINAL UNIT:



Is the audio signal output of pin (U36)(AR3), (V37)(AL3) of IC U401 normal?

NO

Check IC U401 and its peripheral circuits.

↓YES

Is audio signal input to pin (4)(LINN), pin (11)(RINN) of IC U601 (AMP)?

NO

Check the line between IC U605 and IC U601.

↓YES

Is MUTE circuit [Shutdown, OFF_MUTE] normal?

NO

Check the Mute circuit. (Q601, Q602 etc.)

↓YES

Is the audio signal output of pin (3, 4) (L-ch) and pin (1, 2) (R-ch) of CN601 (AODIO-CONNECTOR) normal?

NO

Check IC U601 and its peripheral circuits.

↓YES

Check Speaker Box (right and left) and wire harness.

No sound (during the reception of TV broadcasting)



Does not the sound go out though the picture has come out when TV is received?

MAIN UNIT:



Is the IF signal output from pin (16) and pin (17) of TUNER (TU102)?

NO

Check the tuner and its peripheral circuits. Replace as required.

↓YES

Is the IF signal sent to pin (AH35) and pin (AH37) of IC U401?

NO

Check IC U401 its peripheral circuits.

↓YES

Refer to “No sound output in all modes”.

No sound from external input devices (1)

Does not the sound of the audio signal input to SCART1 go out?

TEREMINAL UNIT:



Is the audio signal properly sent to pin (6)(SCT1_AUL_IN) and pin (2)(SCT1_AUR_IN) of SCART1 (CN151)?

NO

Check the setting of an external input device that connects of CN151

↓ YES

Is the audio signal properly sent to pin (AA32) and pin (AB33) of IC U401?

NO

Check the line between CN151 and IC U401

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (2)

Does not the sound of the audio signal input to AV1 (Component) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (2)(AV1_AudioLIN) and pin (4)(AV1_AudioRIN) of CN116?

NO

Check the connection to CN116 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD33) and pin (AC34) of IC U401?

NO

Check the line between CN116 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (3)



Does not the sound of the audio signal input to AV3(Composite) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (4)(AV3_AudioLIN) and pin (6)(AV3_AudioRIN) of CN136?

NO →

Check the connection to CN136 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD35) and pin (AB35) of IC U401?

NO →

Check the line between CN136 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (4)



Does not the sound of the audio signal input to VGA go out?

MAIN UNIT:



Is the audio signal properly sent to pin (2)(VGA_AudioLIN) and pin (3)(VGA_AudioRIN) of CN102?

NO →

Check the connection to CN102 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AA36) and pin (Y37) of IC U401?

NO →

Check the line between CN102 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (5)



Does not the sound of the audio signal input to HDMI go out?



Is picture of the signal input from HDMI displayed?

NO →

Refer to “Does not the picture of the HDMI signal input to HDMI go out?”.

↓ YES

Refer to “No sound output in all modes”.

The audio signal is not output (1)



The audio signal of UHF/VHF is not output from SCART1.

TEREMINAL UNIT:



Is audio signal output from IC U106 sent to pin (3)(SCT1_AUL_OUT) and pin(1)(SCT1_AUR_OUT) of SCART1(CN151)?

YES

Check the connection to SCART1 and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2) (1IN-) and pin (6) (2IN-)of IC U106?

YES

Check the line between IC U401 and IC U106.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (2)



No audio signal output from LINE_AUDIO_OUTPUT terminal.

TEREMINAL UNIT:



Is audio signal output from IC U107 sent to pin(4)(Audio_Line_Out_L) and pin (6)(Audio_Line_Out_R) of LINE_AUDIO_OUT connector(CN140)?

YES

Check the connection to LINE_AUDIO_OUT and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2) (1IN-) and pin (6) (2IN-)of IC U107?

YES

Check the line between IC U401 and IC U107.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (3)



No audio signal output from SPDIF_OUTPUT terminal.

TEREMINAL UNIT:



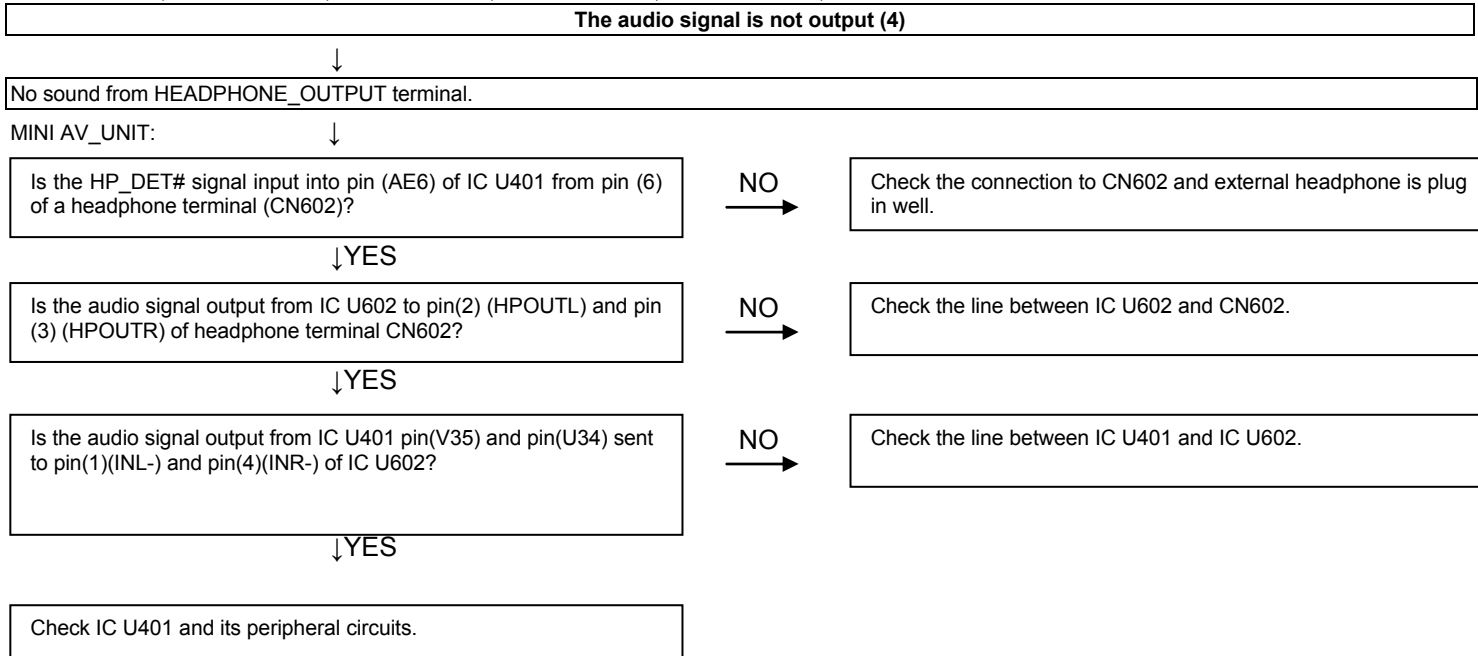
Is ASPDIF audio signal output from pin (K33) of IC U401 to pin (6) of connector CN116?

YES

Check the connection to SPDIF_OUT and external devices.

↓NO

Check IC U401 and its peripheral circuits.



No picture on the display (1)

The picture doesn't appear in all modes.

MAIN UNIT:

Is LVDS signal output from 1st_channel and 2nd_channel of IC U401 in each mode?
(A0N/A0P),(A1N/A1P),(A2N/A2P),(A3N/A3P),(CK1N/CK1P)

↓NO

Check IC U401 and its peripheral control circuits.

↓YES

Is the above-mentioned LVDS signals output to connector CN408?

NO →

Check the line between IC U401 and CN408.

↓YES

Is LCD controller's control signal normal?

NO →

Control signals BRIGHT_ADJ, INVERTER_ON_OFF,
PANEL_VCC_ON/OFF, and it peels off and whether normality is
checked.

PANEL_UNIT:

↓YES

Similarly, is the LVDS signal input to connector of the panel
module?

NO →

Wire harness is checked.

↓YES

Check the panel module.

No picture on the display (2)

Does not the picture come out when TV (Antenna) is received?

TERMINAL UNIT:

Is the voltage of regulation for a TUNER circuit and the power
supply terminal of IC U401 supplied?

NO →

Each power supply circuit is checked.

↓YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin
(AH35), pin (AH37) of IC U401 ?

NO →

Check the tuner, IC U401 and their peripheral circuits. Replace
as required.

MAIN_UNIT:

↓YES

Do X4150 (54.00MHz) oscillate?

NO →

Check X4150 and its peripheral circuits.

↓YES

Refer to "The picture doesn't appear in all modes."

No picture on the display (3)



Does not the picture come out when TV (Cable) is received?

TERMINAL UNIT:



Is the voltage of regulation for a TUNER circuit and the power supply terminal of IC U401 supplied?

NO
→

Each power supply circuit is checked.

↓YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin (29), pin (30) of IC U101 ?

NO
→

Check the tuner, IC U101 and their peripheral circuits. Replace as required.

↓YES

Is MPEG data (CI_INDATAB0, TSYNC, TCK) signal from pin (11), (8) (9) of IC U101 are output to IC U401?

NO
→

Check IC U101 and their peripheral circuits. Replace as required.

MAIN_UNIT:

↓YES

Do X4150 (54.00MHz) oscillate?

NO
→

Check X4150 and its peripheral circuits.

↓YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1>No picture on the display (4)



Does not the picture of the CVBS signal input to SCART1 go out?

TERMINAL UNIT:



Is CVBS signal sent to pin (20) of SCART1 (CN151)?

NO
→

Check the setting of an external input device that connects of CN151.

MAIN_UNIT:

↓YES

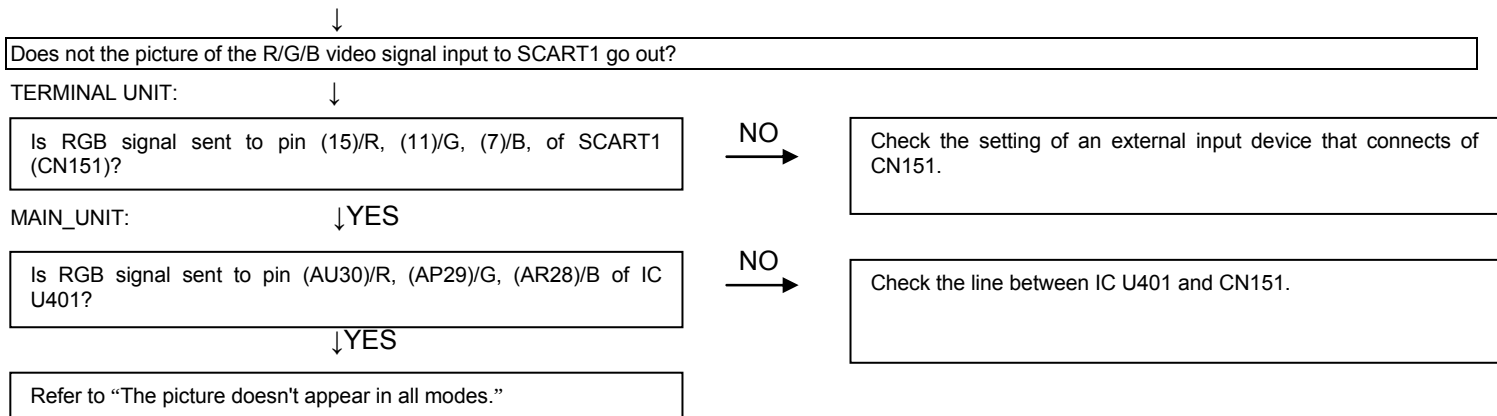
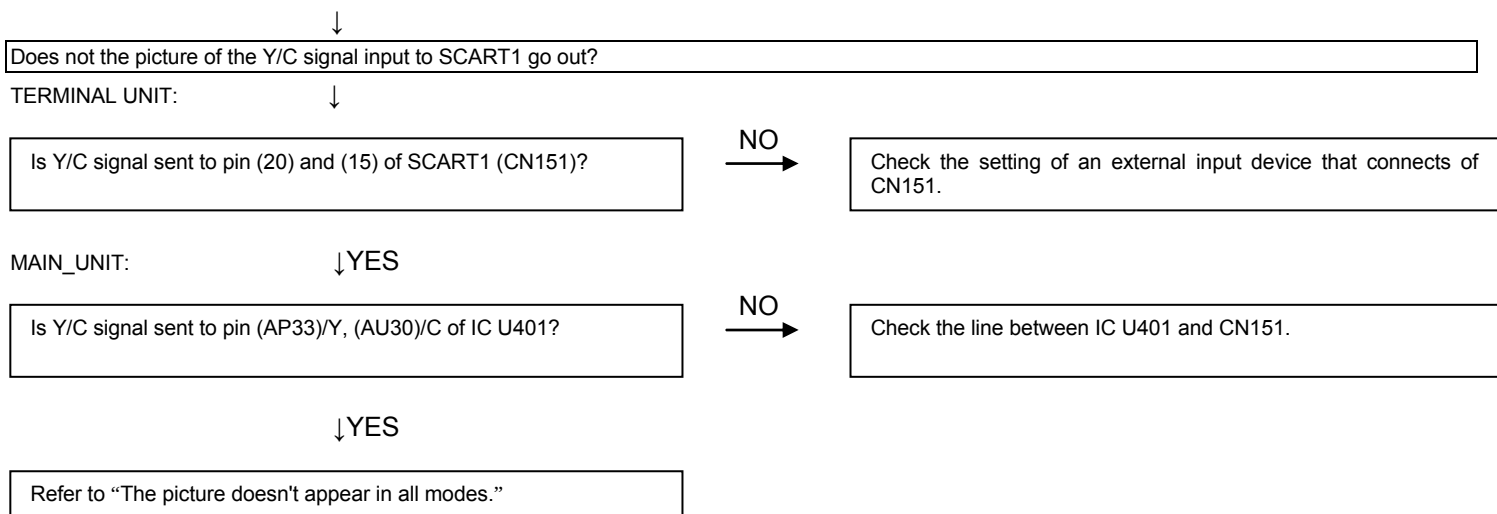
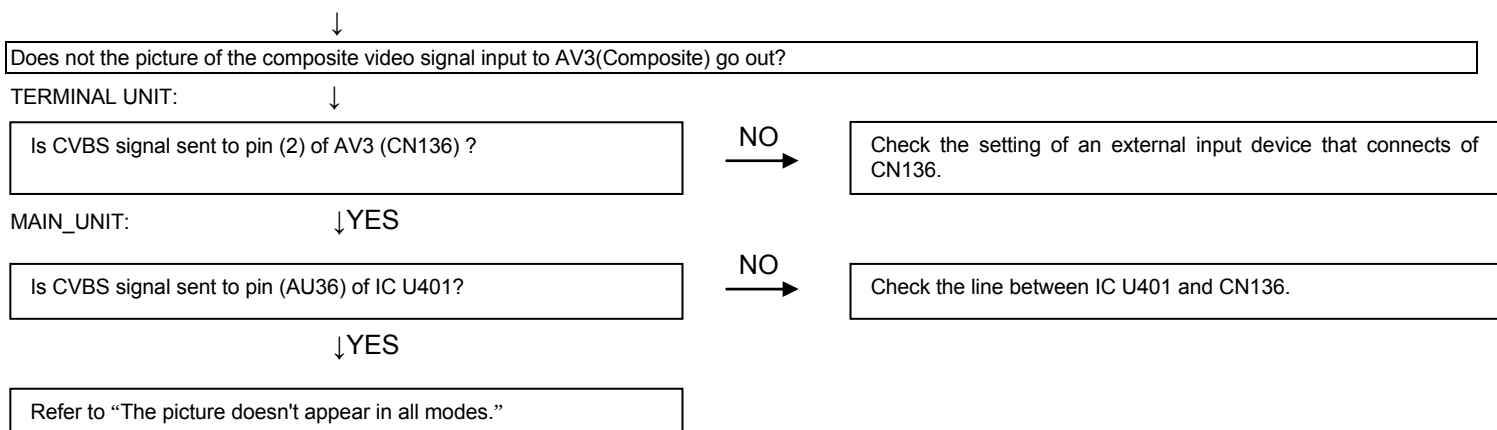
Is CVBS signal sent to pin (AP33) of IC U401?

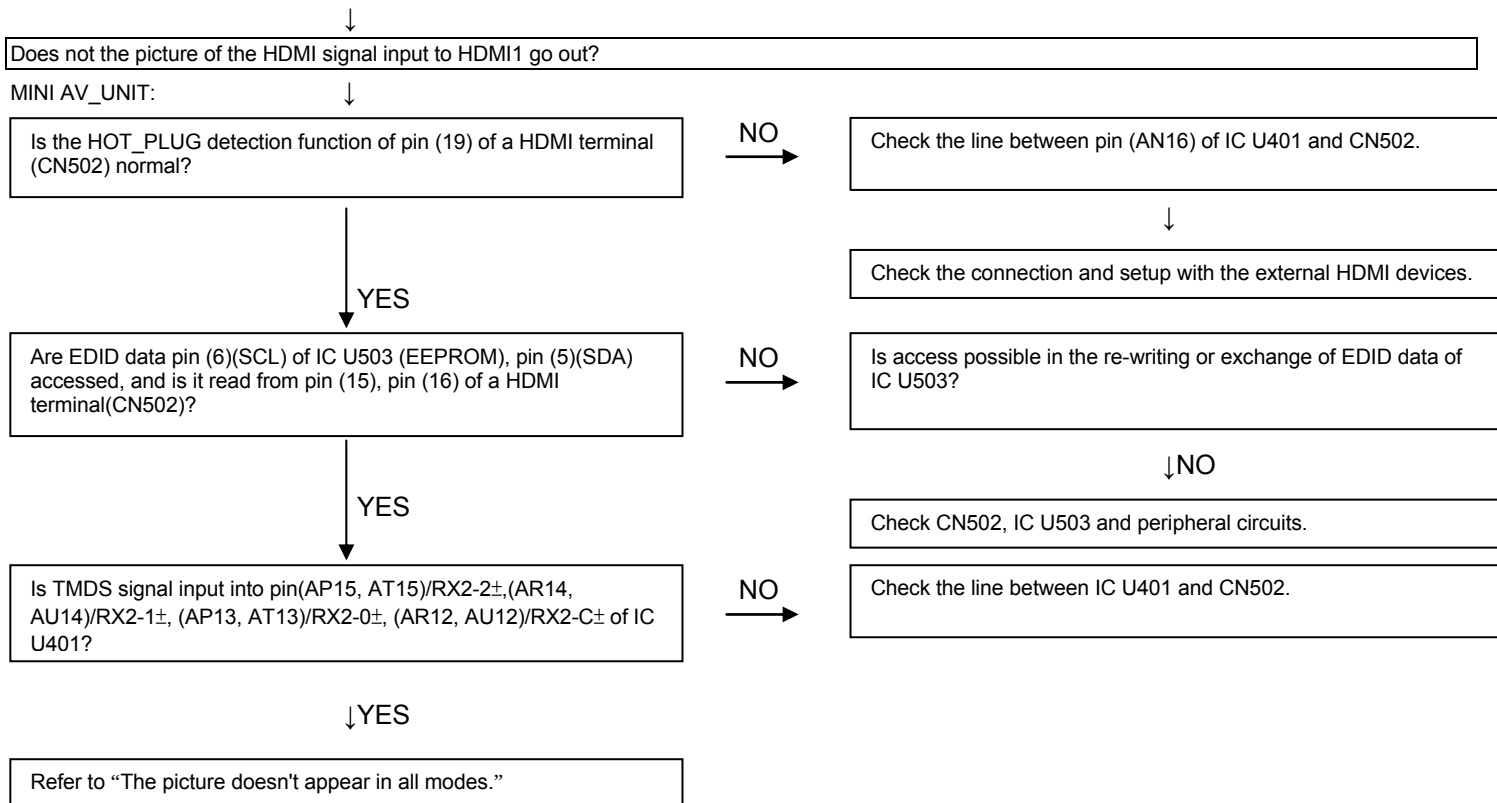
NO
→

Check the line between IC U401 and CN151.

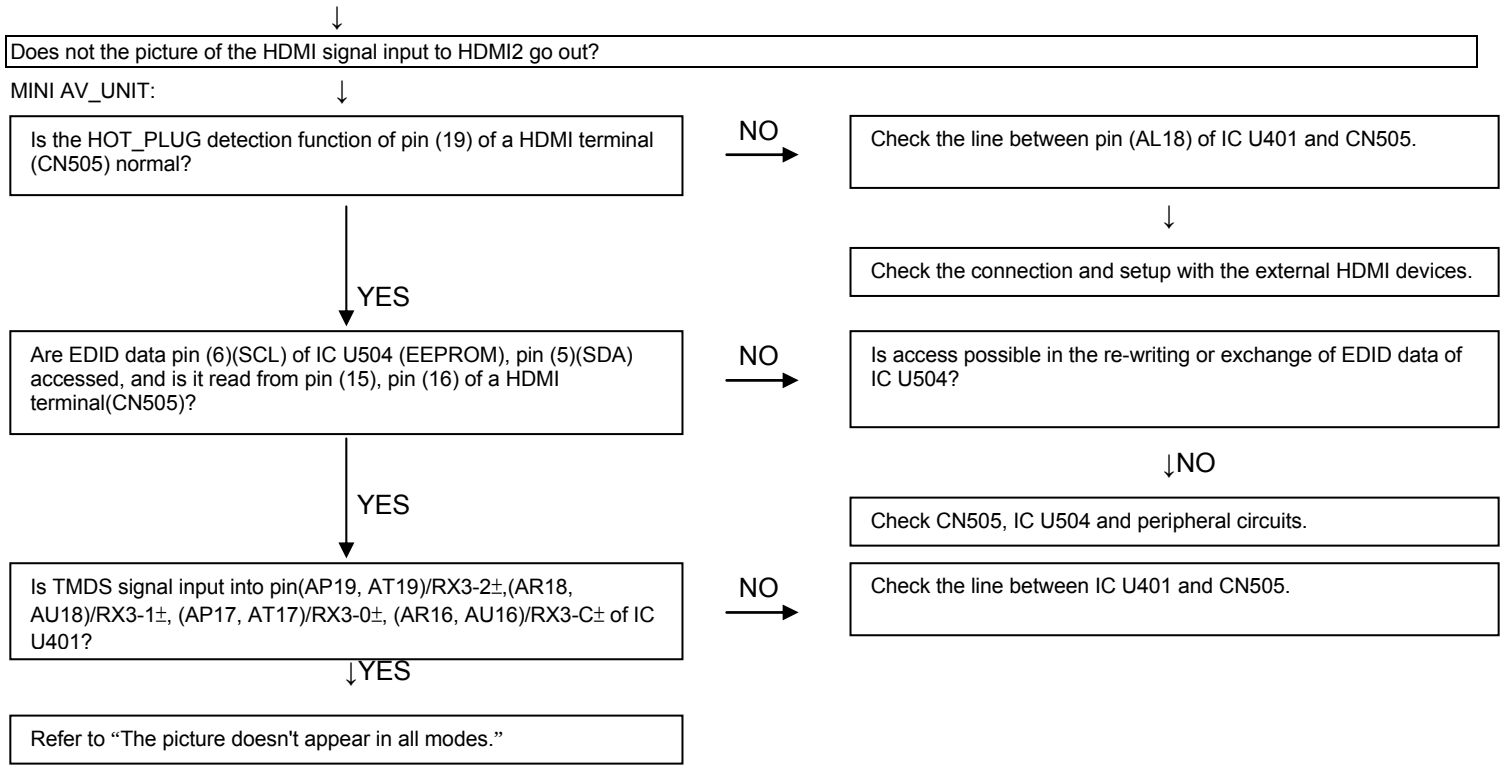
↓YES

Refer to "The picture doesn't appear in all modes."

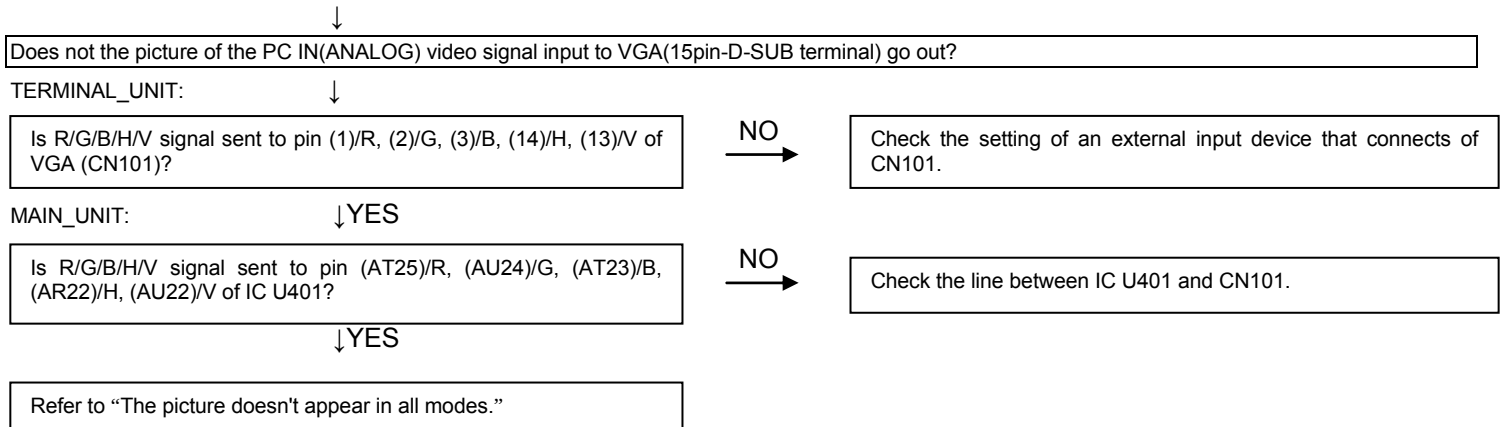
<External input SCART1>No picture on the display (5)**<External input SCART1 >No picture on the display (6)****<External input AV3(Composite)>No picture on the display (6)**



<External input HDMI2>No picture on the display (8)



<External input VGA>No picture on the display (9)





Does not the picture of the component video signal input to Component go out?

TERMINAL_UNIT:



Is Component Y/Pb/Pr signal sent to pin (2)/Y, (4)/Pb, (6)/Pr of AV1(CN111) ?

NO
→

Check the setting of an external input device that connects of CN111.

MAIN_UNIT:

↓YES

Is Component Y/Pb/Pr signal sent to pin (AU26)/Y, (AT27)/Pb, (AP27)/Pr of IC U401?

NO
→

Check the line between IC U401 and CN111.

↓YES

Refer to “The picture doesn't appear in all modes.”

< During external connection > No picture on the monitor (1)



No picture appears on SCART1 - connected monitor during the tuner (U/V) reception.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "RGB", "AUTO".
- 2) Is ANT-CABLE disconnected or connected improperly? ...Connect it correctly as per the operation manual.
- 3) The picture is sent to the monitor in a CVBS signal if the source during display is ATV/DTV, CVBS or Y/C of SCART1, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 4) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 5) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (19) of CN151 (SCART1)?

YES
→

Check the setting of an external input device that connects of CN151.

↓NO

Is U401 pin (AT31) CVBS signal output into pin (19) of CN151 (SCART1)?

YES
→

Check the line between CN151 and U401.

↓NO

Refer to "The picture doesn't appear in all modes."

< During external connection > No picture on the monitor (2)



AVOUT:

No picture from SCART1 appears on AVOUT-connected monitor.

NOTE: Normally, if the screen during display is sent to SCART1, no picture is sent to AVOUT.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "AUTO".
- 2) The picture is sent to the monitor in a CVBS signal if the source during display is TV, CVBS or Y/C of SCART1, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 3) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 4) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (2) of CN140?

YES
→

Check the setting of an external input device that connects of CN140.

↓NO

Is CVBS signal output from pin (AP31) of IC U401 into pin (2) of CN140 ?

YES
→

Check the line between CN140 and IC U401.

↓NO

Refer to "The picture doesn't appear in all modes."

32" TROUBLESHOOTING TABLE

Power unit operation check.		
↓		
Are the power cord and harness in the unit properly connected?	NO →	Connect the power cord and harness properly, and turn on the power.
LINE_FILTER_UNIT: ↓ YES		
Is F901/F902 normal?	NO →	LINE_FILTER_UNIT: Isn't RV901,C901,L901,C904,C902,C903,L902,RV903, etc. out of order? Moreover, whether the short-circuit with the circumference circuit is checked.
POWER_UNIT ↓ YES		POWER_UNIT: BD901, FB905, C910, etc. out of order? Moreover, whether the short-circuit with the circumference circuit is checked.
Is BD901 (+320V) output? (Set the main power SW to OFF.)	NO →	Does the PFC circuit operate normally? (L906, Q901, D902, D903, IC901 and etc. And, the circuit around the protection circuit etc. is checked.)
↓ YES		
Is a voltage of +5V applied to pin (12,13) of connector (CN902)? (Set the main power SW to OFF.)	NO →	Does the switching circuit operate normally? Check circuit around the primary side (T901, IC931, Q931, ZD931, ZD930, ZD980, ZD981, etc.), the secondary side (D935, L980, etc.), the AC_DET circuit (IC932, IC982, etc.), and the protection circuit.
↓ YES		
Are +24V output as for the power on/off switch when it is on?	NO →	Does the inverter circuit operate normally? Check circuit around the primary side (T902,Q951,Q952,IC951, D951,D952, etc.), the secondary side (D955, C943, etc.), and the protection circuit.
↓ YES		
Are +60V output as for the power on/off switch when it is on?	NO →	Does the inverter circuit operate normally? Check circuit around the second side (L907, Q991, D985, IC902, Q903 etc.)
↓ YES		
Similarly, is +12V output as for the power on/off switch when it is on?	NO →	Check +12V circuit of D962, L931, etc.

The sound is not emitted from the speaker though the picture has come out.



No sound output in all modes?

TEREMINAL UNIT:



Is the audio signal output of pin U36 (AR3), V37 (AL3) of IC U401 normal?

NO



Check IC U401 and its peripheral circuits.

↓YES

Is audio signal input to pin (4)(L), pin (11)(R) of IC U601 (AMP)?

NO



Check the line between IC U605 and IC U601.

↓YES

Is MUTE circuit [Shutdown, OFF_MUTE] normal?

NO



Check the Mute circuit. (Q601, Q602 etc.)

↓YES

Is the audio signal output of pin (3, 4) (L-ch) and pin (1, 2) (R-ch) of CN601 (AODIO-CONNECTOR) normal?

NO



Check IC U601 and its peripheral circuits.

↓YES

Check Speaker Box (right and left) and wire harness.

No sound (during the reception of TV (DIGITAL) broadcasting)



Does not the sound go out though the picture has come out when TV is received?

MAIN UNIT:



Is the IF signal output from pin (16) and pin (17) of TUNER (TU102)?

NO →

Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Is the IF signal sent to pin (AH35) and pin (AH37) of IC U401?

NO →

Check IC U401 its peripheral circuits.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (1)



Does not the sound of the audio signal input to SCART1 go out?

TEREMINAL UNIT:



Is the audio signal properly sent to pin (6) (SCT1_AUL_IN) and pin (2) (SCT1_AUR_IN) of SCART1 (CN151)?

NO →

Check the setting of an external input device that connects of CN151

↓ YES

Is the audio signal properly sent to pin (AA32) and pin (AB33) of IC U401?

NO →

Check the line between CN151 and IC U401

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (2)



Does not the sound of the audio signal input to SCART2 go out?

TEREMINAL UNIT:



Is the audio signal properly sent to pin (6) (SCT2_AUL_IN) and pin (2) (SCT2_AUR_IN) of SCART2 (CN152)?

NO →

Check the setting of an external input device that connects of CN152

↓ YES

Is the audio signal properly sent to pin (AC36) and pin (AB37) of IC U401?

NO →

Check the line between CN152 and IC U401

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (3)

Does not the sound of the audio signal input to AV1 (Component) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (8) (YPbPrL_IN) and pin (10) (YPbPrR_IN) of CN111?

NO →

Check the connection to CN111 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD33) and pin (AC34) of IC U401?

NO →

Check the line between CN111 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (4)

Does not the sound of the audio signal input to AV3(Composite) go out?

MAIN UNIT:



Is the audio signal properly sent to pin (4) (AV3_AudioLIN) and pin (6) (AV3_AudioRIN) of CN136?

NO →

Check the connection to CN136 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AD35) and pin (AB35) of IC U401?

NO →

Check the line between CN136 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (4)

Does not the sound of the audio signal input to VGA go out?

MAIN UNIT:



Is the audio signal properly sent to pin (2) (VGA_AudioLIN) and pin (3) (VGA_AudioRIN) of CN102?

NO →

Check the connection to CN102 and the external input device.

↓ YES

Is the audio signal properly sent to pin (AA36) and pin (Y37) of IC U401?

NO →

Check the line between CN102 and IC U401.

↓ YES

Refer to “No sound output in all modes”.

No sound from external input devices (5)



Does not the sound of the audio signal input to HDMI1/2/3 go out?



Is picture of the signal input from HDMI1/2/3 displayed?

NO

Refer to “Does not the picture of the HDMI signal input to HDMI1/2/3 go out?”.

↓YES

Refer to “No sound output in all modes”.

The audio signal is not output (1)



The audio signal of UHF/VHF is not output from SCART1.

TEREMINAL UNIT:



Is audio signal output from IC U106 sent to pin (3)(SCT1_AUL_OUT) and pin(1)(SCT1_AUR_OUT) of SCART1(CN151)?

YES

Check the connection to SCART1 and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2)(1IN-) and pin (6)(2IN-)of IC U106?

YES

Check the line between IC U401 and IC U106.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (2)



The audio signal of UHF/VHF/MONITOR is not output from SCART2.

TEREMINAL UNIT:



Is audio signal output from IC U605 sent to pin(3)(SCT2_AUL_OUT) and pin(1)(SCT2_AUR_OUT) of

YES

Check the connection to SCART2 and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2)(1IN-) and pin (6)(2IN-)of IC U107?

YES

Check the line between IC U401 and IC U107

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (3)

No audio signal output from LINE_AUDIO_OUTPUT terminal.

TEREMINAL UNIT:

Is audio signal output from IC U107 sent to pin(4) (Audio_Line_Out_L) and pin (6) (Audio_Line_Out_R) of LINE_AUDIO_OUT connector(CN140)?

YES
→

Check the connection to LINE_AUDIO_OUT and external devices.

↓NO

Is audio signal output from IC U401 is sent to pin (2)(1IN-) and pin (6)(2IN-)of IC U107?

YES
→

Check the line between IC U401 and IC U107.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (4)

No audio signal output from SPDIF_OUTPUT terminal.

TEREMINAL UNIT:

Is ASPDIF audio signal output from pin (K33) of IC U401 to pin (2) of connector CN603?

YES
→

Check the connection to SPDIF_OUT and external devices.

↓NO

Check IC U401 and its peripheral circuits.

The audio signal is not output (5)

No sound from HEADPHONE_OUTPUT terminal.

MINI AV_UNIT:

Is the HP_DET# signal input into pin (AE6) of IC U401 from pin (6) of a headphone terminal (CN602)?

NO
→

Check the connection to CN602 and external headphone is plug in well.

↓YES

Is the audio signal output from IC U602 to pin(2) (HPOUTL) and pin (3) (HPOUTR) of headphone terminal CN602?

NO
→

Check the line between IC U602 and CN602.

↓YES

Is the audio signal output from IC U401 pin(V35) and pin(U34) sent to pin(1)(INL-) and pin(4)(INR-) of IC U602?

NO
→

Check the line between IC U401 and IC U602.

↓YES

Check IC U401 and its peripheral circuits.

No picture on the display (1)

↓
The picture doesn't appear in all modes.

MAIN UNIT:

Is LVDS signal output from 1st_channel and 2nd_channel of IC U401 in each mode?
(A0N/A0P),(A1N/A1P),(A2N/A2P),(A3N/A3P),(CK1N/CK1P)

↓NO

Check IC U401 and its peripheral control circuits.

↓YES

Is the above-mentioned LVDS signals output to connector CN408?

NO →

Check the line between IC U401 and CN408.

↓YES

Is LCD controller's control signal normal?

NO →

Control signals BRIGHT_ADJ, INVERTER_ON_OFF, PANEL_VCC_ON/OFF, and it peels off and whether normality is checked.

MEMC_UNIT:

↓YES

Similarly, is the LVDS signal input to connector CN405 of the MEMC module?

NO →

Wire harness is checked.

↓YES

Check is the LVDS signal out from the connector CN406, CN407 of MEMC module.

NO →

Check IC U404 and its peripheral circuits.

PANEL_UNIT:

↓YES

Similarly, is the LVDS signal input to connector of the panel module?

NO →

Wire harness is checked.(MEMC module to Panel module)

↓YES

Check the panel module.

No picture on the display (2)

↓
Does not the picture come out when TV (Antenna) is received?

TERMINAL UNIT:

↓

Is the voltage of regulation for a TUNER circuit and the power supply terminal of IC U401 supplied?

NO →

Each power supply circuit is checked.

↓YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin (AH35), pin (AH37) of IC U401?

NO →

Check the tuner, IC U401 and their peripheral circuits. Replace as required.

MAIN_UNIT:

↓YES

Do X4150 (54.00MHz) oscillate?

NO →

Check X4150 and its peripheral circuits.

↓YES

Refer to "The picture doesn't appear in all modes."

No picture on the display (3)

Does not the picture come out when TV (Cable) is received?

TERMINAL UNIT:



Is the voltage of regulation for a TUNER circuit and the power supply terminal of IC U401 supplied?

NO
→

Each power supply circuit is checked.

↓YES

Is IF signal output from pin (16), (17) of TUNER (TU102) to pin (29), pin (30) of IC U101?

NO
→

Check the tuner, IC U101 and their peripheral circuits. Replace as required.

↓YES

Is MPEG data (CI_INDATA0, TSYNC, TCK) signal from pin (11), (8) (9) of IC U101 are output to IC U401?

NO
→

Check IC U101 and their peripheral circuits. Replace as required.

MAIN_UNIT:

↓YES

Do X4150 (54.00MHz) oscillate?

NO
→

Check X4150 and its peripheral circuits.

↓YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1, SCART2>No picture on the display (4)

Does not the picture of the CVBS signal input to SCART1 go out?

Does not the picture of the CVBS signal input to SCART2 go out?

TERMINAL UNIT:



Is CVBS signal sent to pin (20) of SCART1 (CN151)?

NO
→

Check the setting of an external input device that connects of CN151.

Is CVBS signal sent to pin (20) of SCART2 (CN152)?

NO
→

Check the setting of an external input device that connects of CN152.

MAIN_UNIT:

↓YES

Is CVBS signal sent to pin (AP33) of IC U401?

NO
→

Check the line between IC U401 and CN151.

Is CVBS signal sent to pin (AT33) of IC U401?

NO
→

Check the line between IC U401 and CN152.

↓YES

Refer to "The picture doesn't appear in all modes."

<External input SCART1>No picture on the display (5)

Does not the picture of the R/G/B video signal input to SCART1 go out?

TERMINAL UNIT:

Is RGB signal sent to pin (15)/R, (11)/G, (7)/B, of SCART1 (CN151)?

NO →

Check the setting of an external input device that connects of CN151.

MAIN_UNIT: ↓ YES

Is RGB signal sent to pin (AU30)/R, (AP29)/G, (AR28)/B of IC U401?

NO →

Check the line between IC U401 and CN151.

↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input SCART1, SCART2>No picture on the display (6)

Does not the picture of the Y/C signal input to SCART1 go out?

Does not the picture of the Y/C signal input to SCART2 go out?

TERMINAL UNIT:

Is Y/C signal sent to pin (20) and (15) of SCART1 (CN151)?

NO →

Check the setting of an external input device that connects of CN151.

Is Y/C signal sent to pin (20) and (15) of SCART2 (CN152)?

NO →

Check the setting of an external input device that connects of CN152.

MAIN_UNIT: ↓ YES

Is Y/C signal sent to pin (AP33)/Y, (AU30)/C of IC U401?

NO →

Check the line between IC U401 and CN151.

Is Y/C signal sent to pin (AT33)/Y, (AR34)/C of IC U401?

NO →

Check the line between IC U401 and CN152.

↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input AV3>No picture on the display (7)

Does not the picture of the composite video signal input to AV3(Composite) go out?

TERMINAL UNIT:

Is CVBS signal sent to pin (2) of AV3 (CN136)?

NO →

Check the setting of an external input device that connects of CN136.

MAIN_UNIT: ↓ YES

Is CVBS signal sent to pin (AU36) of IC U401?

NO →

Check the line between IC U401 and CN136.

↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input HDMI1,2,3>No picture on the display (8)

Does not the picture of the HDMI signal input to HDMI1 go out?

MINI AV_UNIT:

Is the HOT_PLUG detection function of pin (19) of a HDMI terminal (CN502) normal?

NO

Check the line between pin (50) of IC U501 and CN502.

YES

Are EDID data pin (6)(SCL) of IC U503 (EEPROM), pin (5)(SDA) accessed, and is it read from pin (15), pin (16) of a HDMI terminal(CN502)?

NO

Is access possible in the re-writing or exchange of EDID data of IC U503?

↓NO

Check CN502, IC U503 and peripheral circuits.

Is TMDS signal input into pin(63, 62)/RX2-2±,(60, 59)/RX2-1±, (57, 56)/RX2-0±, (54, 53)/RX2-C± of IC U501?

NO

Check the line between IC U501 and CN502.

YES

Is TMDS signal output from pin(17, 18)/ 2±,(20, 21)/ 1±, (23, 24)/ 0±, (26, 27)/ C± of IC U501?

NO

Check IC U501 and peripheral circuits.

↓YES

Refer to "The picture doesn't appear in all modes."

Does not the picture of the HDMI signal input to HDMI2 go out?

MINI AV_UNIT:

Is the HOT_PLUG detection function of pin (19) of a HDMI terminal (CN501) normal?

NO

Check the line between pin (64) of IC U501 and CN501.

YES

Are EDID data pin (6)(SCL) of IC U502 (EEPROM), pin (5)(SDA) accessed, and is it read from pin (15), pin (16) of a HDMI terminal(CN502)?

NO

Is access possible in the re-writing or exchange of EDID data of IC U502?

↓NO

Check CN502, IC U503 and peripheral circuits.

Is TMDS signal input into pin(14, 13)/RX1-2±,(11, 10)/RX1-1±, (8, 7)/RX1-0±, (5, 4)/RX1-C± of IC U501?

NO

Check the line between IC U501 and CN501.

YES

Is TMDS signal output from pin(17, 18)/ 2±,(20, 21)/ 1±, (23, 24)/ 0±, (26, 27)/ C± of IC U501?

NO

Check IC U501 and peripheral circuits.

↓ YES

Refer to "The picture doesn't appear in all modes."

Does not the picture of the HDMI signal input to HDMI3 go out?

MINI AV_UNIT:

Is the HOT_PLUG detection function of pin (19) of a HDMI terminal (CN506) normal?

NO →

Check the line between pin (35) of IC U501 and CN506.

↓

Check the connection and setup with the external HDMI devices.

↓ YES

Are EDID data pin (6)(SCL) of IC U504 (EEPROM), pin (5)(SDA) accessed, and is it read from pin (15), pin (16) of a HDMI terminal (CN506)?

NO →

Is access possible in the re-writing or exchange of EDID data of IC U504?

↓ NO

Check CN506, IC U504 and peripheral circuits.

↓ YES

Is TMDS signal input into pin(48, 47)/RX3-2±,(45, 44)/RX3-1±, (42, 41)/RX3-0±, (39, 38)/RX3-C± of IC U501?

NO →

Check the line between IC U501 and CN506.

↓ YES

Is TMDS signal output from pin(17, 18)/ 2±,(20, 21)/ 1±, (23, 24)/ 0±, (26, 27)/ C± of IC U501?

NO →

Check IC U501 and peripheral circuits.

↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input VGA>No picture on the display (9)

↓

Does not the picture of the PC IN(ANALOG) video signal input to VGA(15pin-D-SUB terminal) go out?

TERMINAL_UNIT:

Is R/G/B/H/V signal sent to pin (1)/R, (2)/G, (3)/B, (14)/H, (13)/V of VGA (CN101)?

NO →

Check the setting of an external input device that connects of CN101.

MAIN_UNIT:

↓ YES

Is R/G/B/H/V signal sent to pin (AT25)/R, (AU24)/G, (AT23)/B, (AR22)/H, (AU22)/V of IC U401?

NO →

Check the line between IC U401 and CN101.

↓ YES

Refer to “The picture doesn't appear in all modes.”

<External input AV1(Component)>No picture on the display (10)



Does not the picture of the component video signal input to Component go out?

TERMINAL_UNIT:



Is Component Y/Pb/Pr signal sent to pin (2)/Y, (4)/Pb, (6)/Pr of AV1(CN111) ?

NO
→

Check the setting of an external input device that connects of CN111.

MAIN_UNIT:

↓YES

Is Component Y/Pb/Pr signal sent to pin (AU26)/Y, (AT27)/Pb, (AP27)/Pr of IC U401?

NO
→

Check the line between IC U401 and CN111.

↓YES

Refer to "The picture doesn't appear in all modes."

< During external connection > No picture on the monitor (1)



No picture appears on SCART1 - connected monitor during the tuner (U/V) reception.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "RGB", "AUTO".
- 2) Is ANT-CABLE disconnected or connected improperly? ...Connect it correctly as per the operation manual.
- 3) The picture is sent to the monitor in a CVBS signal if the source during display is ATV/DTV, CVBS or Y/C of SCART1, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 4) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 5) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (19) of CN151 (SCART1)?



Check the setting of an external input device that connects of CN151.

↓ NO

Is U401 pin (AT31) CVBS signal output into pin (19) of CN151 (SCART1)?



Check the line between CN151 and U401.

↓ NO

Refer to "The picture doesn't appear in all modes."

< During external connection > No picture on the monitor (2)

SCART2:



No picture from SCART1 appears on SCART2-connected monitor.

NOTE: Normally, if the screen during display is sent to SCART2, no picture is sent to SCART2.



Checklist:

- 1) Is the Signal Type (item) in MENU-Option-Input Select equal to Signal Type of an external device? ...Set it to "CVBS", "Y/C", "AUTO".
- 2) The picture is sent to the monitor in a CVBS signal if the source during display is TV, CVBS or Y/C of SCART1-2, AV3.
When sent by component, etc., that signal is not sent to the monitor.
- 3) When the monitor picture is not sent and is not displayed on the monitor, refer to "No picture" for each terminal.
- 4) The video output from SCART1 is not the monitor output (output of the picture now watching).
The picture of the last selected TV channel is always sent to SCART1. (Specification)

TERMINAL_UNIT:



Is CVBS signal output into pin (19) of CN152 (SCART2)?



Check the setting of an external input device that connects of CN152.

↓ NO

Is CVBS signal output from pin (AP31) of IC U401 into pin (19) of CN152 (SCART2)?



Check the line between CN152 and IC U401.

↓ NO

Refer to "The picture doesn't appear in all modes."

CHAPTER 5. MAJOR IC INFORMATIONS

[1] MAJOR IC INFORMATIONS

1. MAJOR IC INFORMATIONS

1.1. U401 (MT5363LICG BGA-522)

GENERAL DESCRIPTION

The MediaTek MT5363LICG family is a backend decoder and a TV controller and offers high integration for advanced applications. It combines a transport de-multiplexer, a high definition video decoder, an AC3 audio decoder, a dual-link LVDS transmitter, and an NTSC/PAL/SECAM TV decoder with a 3D comb filter (NTSC/PAL). The MT5363LICG enables consumer electronics manufactures to build high quality, low cost and feature-rich iDTVs.

World-Leading Audio/Video Technology: The MT5363LICG supports most Full-HD video decoder standards, including H.264, MPEG4, MPEG2 and JPEG. The MT5363LICG also supports MediaTek MDDi™ de-interlace solution can reach very smooth picture quality for motions. A 3D comb filter added to the TV decoder recovers great details for still pictures. The special color processing technology provides natural, deep colors and true studio quality video. Also, the MT5363LICG family has built-in high resolution and high-quality audio codec.

Rich Features for High Value Products: The MT5363LICG family enables true single-chip experience. It integrates high-quality HDMI1.3, high speed VGA ADC, dual-channel LVDS, USB2.0 receiver and multi-media decoder.

Key Features:

1. DVB-T demodulator
2. A transport demultiplexer
3. A multi-standard video decoder
4. An AC3/MPEG2 audio decoder
5. HDMI1.3 receiver
6. Audio codec
7. Support networking

GENERAL FEATURE LIST

Host CPU

ARM11
16K I-Cache and 16K D-Cache
4KB Instruction TCM
JTAG ICE interface
Watch Dog timers
Build-in CPI analyzer and Cache Hit Rate Meter

Transport Demultiplexer

Supports New generation 2 demux design
Supports one parallel or two serial transport stream input(s) and each rate could up to 80Mbps
Supports one serial/parallel transport stream output and its rate could up to 72Mbps
Supports ATSC, DVB, MPEG-2, MPEG-4, and H.264 transport stream and MPEG-2 program stream demultiplexing
Supports independent TS record and TS playback at the same time with independent data structure (PID setting/configuration/status)
Supports TS time-shifting and/or background record functions with computation power for up to 3 TS processes
Supports time stamp insertion for TS record and time stamp remove for TS playback
Supports DES (64-bit key ECB/CBC) / 3-DES (192 bit key ECB/CBC) / DVB-CSA / AES (128/192/256-bit key ECB/CBC) / Multi-2 de-scramblers for TS
Up to 8-PID even/odd descrambled keys for each of two transport stream sources (one from demodulator and the other from DRAM)
Supports AES (128/192/256-bit key ECB/CBC) record encryption and playback decryption
Supports AES (128/192/256-bit key ECB/CBC/CTR) encryption/decryption for all kinds of stream
Supports up to 8-PID even/odd descrambled keys for record encryption and playback decryption
Supports 32 PID filters for record only and 32 PID filters for playback
Supports up to 32 section filters and also positive / negative / mask section filtering scheme
Supports hardware CRC-32 calculation for all kinds of streams
Supports PCR recovery function with or without external VCXO

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

Supports DVB-CI 1.0, DVB-CI+, and CableCARD 2.0 (both S-mode and M-mode)

Supports simple trick play (Playback / Pause / Fast Forward (up to x32)) through USB or Flash

Supports AVI format data playback with DivX DRM decryption and WMV format data playback with ND (Network Device) DRM

Supports I/P/B picture or other start code search function

Supports a stream processor for stream process and video data start code detection

MPEG2 HD Decoder

MPEG2 MP@ML, MP@HL and MPEG-1 video standards

Supports de-blocking filter

MPEG1 Decoder

MPEG4 HD Decoder

ASP@L0~L5 (1920x1088 @ 30 fps)

H.264 (MPEG4 Part 10) HD Decoder (AVC)

MP@L4.0, HP@L4.0, BP@L3 (baseline) video standard

DivX (XviD) Decoder

RM (Real Media) HD Decoder

RV8 / 9 /10

Still Image decoding

JPEG (base-line or progressive)

2D Graphics

Supports multiple color modes

Point, horizontal/vertical line primitive drawings

Rectangle fill and gradient fill functions

Bitblt with transparent options

Alpha blending and alpha composition Bitblt

Stretch Bitblt

Font rendering by color expansion

YCbCr to RGB color space conversion

Image Resizer

Supports 16bpp/32bpp direct color format.

Supports 420/422 video format.

Supports 420/422/444 JPEG format.

Arbitrary ratio vertical/horizontal scaling of video, from 1/128X to 128X

Simple DMA.

OSD Plane

Two linking list OSDs with multiple color mode and both of them have scaler

Video Plane

Supports video capture and over scan.

Flesh tone management

Gamma correction

De-mosquito and de-blocking engine for all AV inputs

Built-in motion-adaptive 3D Noise Reduction

Color Transient Improvement (CTI)

2D Peaking

Saturation/hue adjustment

Brightness and contrast adjustment

Black and White level extender

Adaptive Luma/Chroma management

Automatic detect film or video source

3:2:2:2 pull down source detection

Supports maximum 1920 width motion-adaptive de-interlace.

Supports excellent low angle image processing.

Arbitrary ratio vertical/horizontal scaling of video, from 1/32X to 32X

Advanced non-linear panorama scaling.

Programmable zoom viewer

Progressive scan output

Supports alpha blending

Dithering processing for flat panel display

Frame rate conversion.

Supports FHD panel and VGA dot-to-dot

Supports PIP/POP, (dual de-interlace, one HD and one SD)

LVDS

Supports one-channel 6/8/10/12-bit or 6/8/10-bit dual-channel LVDS transmitter

Built-in spread spectrum for EMI performance

Programmable panel timing output

CVBS In

On-chip 10-bit video ADC

Supports PAL (B,G,D,H,M,N,I,Nc), NTSC, NTSC-4.43, SECAM

NTSC/PAL supports 3D/2D comb filter

VBI data slicer for CC/TT decoding

Supports 2-S-Video.

Max. Supports 4-channel CVBS.

Supports SCART connector

VGA In

Supports VGA input up to UXGA 162 MHz

Supports full VESA standards

Component Video In

Supports two component video inputs

Supports 480i / 480p / 576i / 576p / 720p / 1080i / 1080p

Audio ADC

7 pair / 14 channels to 1 on chip Audio ADC

Audio digital input

1 bit I2S audio input

HDMI Receiver

2 ports HDMI1.3, data rate can be up to 2.25 GHz

EIA/CEA-861B

CEC

Video bypass

TVbypass

CVBS Monitor (any AV input)

TV audio demodulator

Supports BTSC / EIA-J / A2 / NICAM / PAL FM / SECAM world-wide formats

Standard automatic detection

Stereo demodulation, SAP demodulation

Mode selection (Main/SAP/Stereo)

Audio DAC

8 on-chip audio DACs (4-pair) supports R/L channel and subwoofer outputs

DRAM Controller

16/32-bit DDR2 interface

Supports 64Mb to 2Gb DDR DRAM device. 16-bit data bus offers up to 64MB space (one x16

DRAM device), and 32-bit data bus offers up to 512MB space (two x16 DRAM device).

Support DDR2

Audio DSP

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

Supports Dolby Digital AC-3 decoding (ATSC), E-AC-3 decoding

MPEG-1 layer I/II decoding

Dolby Prologic II

Supports WMA / HE-AAC / ADPCM / LPCM / MP3

Audio output: 5.1ch + 2ch (down mix) + 2ch(bypass) + 2ch(TV bypass)

Pink noise and white noise generator

Equalizer

Bass management

3D surround processing with virtual surround

Audio and video lip synchronization

Automatic volume control

Supports 5-bit (10-channel) main audio I²S output interface: each of these channels is up to 24-bit resolution.

S/PDIF interface

One SPDIF input

One SPDIF out

Digital TV(DVB-T) Demodulator

COFDM (Coded Orthogonal Frequency Division Multiplex) channel demodulator for DVB-T receiver

ETSI 300 744 & Nordig Unified compliant

Excellent performance for SFN (Single Frequency Network) & Indoor reception

Supports 2K, 8K modes

Supports QPSK, 16, 64 QAM constellations

1/4, 1/8, 1/16, 1/32 Guard interval

Supports hierarchical & non-hierarchical modes

Accept 6, 7, 8 MHz channel bandwidth

Automatic mode detection

Full-digital timing/frequency with wide acquisition range

Supports triple offset

Excellent adjacent Channel interference (ACI) rejection capability

Excellent Co-Channel interference (CCI) rejection capability

Fast channel lock time

Analog TV IF Demodulator

Supports PAL/SECAM standard

Supports B/G, DK, I, L, L', M/N standard

Accept IF frequency at 38.25 MHz

Full digital AGC control and carrier recovery

Peripherals

Three built-in UARTs with Tx and Rx FIFO. Two of them have high speed data transferring.

The MT5363LICG family has two basic serial interfaces; one is for the tuner or the master for general purpose, the other is the slave for HDMI EDID data.

Three PWMs

MT5363LICG supports MS/MS-PRO, SD/MMC, and SDHC card reader.

IR receiver

Real-time clock and watchdog controller

The MT5363LICG includes 1-link USB2.0/1.1 (supports external hub) for USB mass storage class device.

Built-in uP in standby module

SDIO interface (for DSG, WiFi or UWB)

Supports two serial flash or one serial and one NAND

Supports six-input low-speed ADC.

Supports boundary scan (JTAG)

Supports MII interface (built-in Ethernet MAC)

IC Outline

The MT5363LICG is 27x27mm BGA Package

3.3V/1.0V and 1.8V for DDR2

1.2. U101 (Si2163 QFN-36)

Description

The analog front-end consists of two ADCs with wide dynamic range (12-bit) to allow operation with standard IF (~36 MHz), Low-IF, or Zero-IF inputs. This enables the use of the Si2163 with any TV tuner, either metal can or silicon tuner based. The Si2163 supports ITU J.83 annex A/C and DVB-C (EN 300 429) and accepts symbol rates from 1 to 7 MSymbol/s. The Si2163 includes a user-configurable 31-tap equalizer for optimum reception even in case of difficult network conditions, such as long echoes. Serial or parallel master MPEG TS output modes are supported. Furthermore, a TS slave parallel mode is available via a GPIF port and provides glue less interface to Silicon Labs' MCU devices with embedded USB interface. The user can optionally program a 32-PID hardware filter to reduce the output TS bit rate (or add more TS security for Pay-TV channels). An embedded DSP controls the scanning operations. The Si2163 supports ultra-fast channel scanning for VHF/UHF cable DTV channels, thanks to proprietary features. For supported tuners, the complete algorithm for fast channel scan, QuickScan, is provided as a downloadable patch file. QuickScan runs on the embedded DSP to limit the host CPU / MPEG decoder software burden. An internal I²C pass-through logic switch acts as an I²C repeater and provides a "quiet" I²C bus to the RF front end. A maximum of six general-purpose inputs/outputs are available; three GPIOs also feature Δ/Σ and interrupt output capabilities. Best-in-class demodulation performance is achieved while still maintaining very low-power operation. The Si2163 also includes an IF sub-sampling mode for further reducing power consumption. The Si2163 guarantees a low-cost system implementation due to its minimal BOM and very small package footprint. Si2163 remains pin-to-pin application compatible with Si2165 (multi-standard DVB-T & DVB-C demodulator) and Si2161 (DVB-T demodulator).

Features

- ITU J.83 Annex A/C and DVB-C (EN 300 429) compliant
- NorDig Unified 1.0.3 and C-Book compliant
- Suitable for low power design: 115 mW (typical, 36 MHz IF normal sampling mode)
- Dual 12-bit ADCs: accept 1st IF, low IF, or zero-IF inputs.
- 1 to 7 MBaud symbol rate
- Independent AGC controls (for IF & RF), plus RSSI measurement
- ACI filtering: fixed 8 MHz SAW filter even for low symbol rates
- Ultra fast, DSP controlled, automatic UHF/VHF band scanning (QuickScan)
- Master TS output modes, parallel or serial (with tri-state function)
- Slave TS parallel output: external device polls data from an embedded FIFO. This provides a seamless interface to any USB controller.
- On-chip PID filtering to reduce TS output bit rate
- Up to six GPIOs
- Two 5 V tolerant I2C control buses (host-side, tuner-side) with on-chip I2C logic switch.
- 4, 16, 20, 24, or 27 MHz clock/crystal reference
- 3.3 and 1.2 V power supplies only
- Very compact QFN-36, 5 x 6 mm, RoHS compliant package

Applications

- Digital cable STB, NIM, and iDTV set
- Cable enabled Personal Video Recorder (DVD or HDD-based)
- Digital cable PC-TV card or peripheral

1.3. U402 (NT5TU32M16CG-BD BGA-84)

Features

Speed Sorts	DDR2-533 -37B/-37BI	DDR2-667 -3C/-3CI	DDR2-800 -25D/-25DI	DDR2-800 -25C/-25CI	DDR2-1066 -BE	DDR2-1066 -BD	Units
Bin (CL-IRCD-TRP)	4-4-4	5-5-5	6-6-6	5-5-5	7-7-7	6-6-6	tCK
max. Clock Frequency	266	333	400	400	533	533	MHz
Data Rate	533	667	800	800	1066	1066	Mbps
CAS Latency	4	5	6	5	7	6	tCK
t _{RCD}	15	15	15	12.5	13.125	11.25	ns
t _{RP}	15	15	15	12.5	13.125	11.25	ns
t _{RC}	60	60	60	57.5	53.125	51.25	ns

- 1.8V ± 0.1V Power Supply Voltage
- Programmable CAS Latency: 3,4,5,6 and 7
- Programmable Additive Latency: 0, 1, 2, 3, and 4
- Write Latency = Read Latency -1
- Programmable Burst Length: 4 and 8
- Programmable Sequential / Interleave Burst
- OCD (Off-Chip Driver Impedance Adjustment)
- ODT (On-Die Termination)
- 4 bit prefetch architecture
- 1k page size for x 4 & x 8
2k page size for x16
- Data-Strobes: Bidirectional, Differential
- 4 internal memory banks
- Strong and Weak Strength Data-Output Driver
- Auto-Refresh and Self-Refresh
- Power Saving Power-Down modes
- Industrial grade device supports -40oC ~95oC operating temperature. (-37BI/-3CI/-25DI/-25CI)
- 7.8 µs max. Average Periodic Refresh Interval
- Packages:
 - 60 Ball BGA for x4/x8 components
 - 84 Ball BGA for x16 component
- RoHS Compliance

Description

The 512Mb Double-Data-Rate-2 (DDR2) DRAMs is a highspeed CMOS Double Data Rate 2 SDRAM containing 536,870,912 bits. It is internally configured as a quad-bank DRAM.

The 512Mb chip is organized as either 32Mbit x 4 I/O x 4 banks, 16Mbit x 8 I/O x 4 banks or 8Mbit x 16 I/O x 4 banks device.

The chip is designed to comply with all key DDR2 DRAM key features: (1) posted CAS with additive latency, (2) write latency = read latency -1, (3) normal and weak strength dataoutput driver, (4) variable data-output impedance adjustment and (5) an ODT (On-Die Termination) function.

All of the control and address inputs are synchronized with a pair of externally supplied differential clocks. Inputs are latched at the cross point of differential clocks (CK rising and CK falling). All I/Os are synchronized with a single ended DQS or differential DQS pair in a source synchronous fashion. A 14 bit address bus for x4 and x8 organized components and a 13 bit address bus for x16 components is used to convey row, column, and bank address devices.

These devices operate with a single 1.8V±/0.1V power supply and are available in BGA packages.

An Auto-Refresh and Self-Refresh mode is provided along with various power-saving power-down modes.

1.4. U601 (TPA3110D2 15W TSSOP-28)

Features

- 15-W/ch into an 8-Ω Load at 10% THD+N From a 16-V Supply
- 10-W/ch into an 8-Ω Load at 10% THD+N From a 13-V Supply
- Operates from 8 V to 26 V
- 87% Efficient Class-D Operation Eliminates Need for Heat Sinks
- Four Selectable, Fixed Gain Settings
- Differential Inputs
- Thermal and Short-Circuit Protection With Auto Recovery Feature
- Speaker Protection Using Adjustable Power Limit
- DC Detect
- Surface Mount 28-pin TSSOP (PWP) Package

APPLICATIONS

- Televisions
- Consumer Audio Equipment

DESCRIPTION

The TPA3110D2 is a 15-W (per channel) efficient, Class-D audio power amplifier for driving bridged-tied stereo speakers. The TPA3110D2 can drive stereo speakers as low as 4 Ω . The high efficiency of the TPA3110D2, 87%, eliminates the need for an external heat sink when playing music.

The gain of the amplifier is controlled by two gain select pins. The gain selections are 20, 26, 32, 36 dB.

The outputs are fully protected against shorts to GND, VCC, and output-to-output shorts with an auto recovery feature and monitor output. Speakers may be protected by an adjustable power limit circuit. Dc detect is also included to prevent speaker damage.

1.5. U602 (TPA6132A2RTER 25mW QFN-16)

FEATURES

- Patented DirectPath™ Technology Eliminates Need for DC-Blocking Capacitors
 - Outputs Biased at 0 V
 - Excellent Low Frequency Fidelity
- Active Click and Pop Suppression
- 2.1 mA Typical Supply Current
- Fully Differential or Single-Ended Inputs
 - Built-In Resistors Reduces Component Count
 - Improves System Noise Performance
- Constant Maximum Output Power from 2.3 V to 5.5 V Supply
 - Simplifies Design to Prevent Acoustic Shock
- Improved RF Noise Immunity
- Microsoft™ Windows Vista™ Compliant
- High Power Supply Noise Rejection
 - 100 dB PSRR at 217 Hz
 - 90 dB PSRR at 10 kHz
- Wide Power Supply Range: 2.3 V to 5.5 V
- Gain Settings: –6 dB, 0 dB, 3 dB, and 6 dB
- Short-Circuit and Thermal-Overload Protection
- ± 8 kV HBM ESD Protected Outputs
- Small Package Available
 - 16-Pin, 3 mm $\times$ 3 mm Thin QFN

APPLICATIONS

- Smart Phones / Cellular Phones
- Notebook Computers
- CD / MP3 Players
- Portable Gaming

DESCRIPTION

The TPA6132A2 (sometimes referred to as TPA6132) is a DirectPath™ stereo headphone amplifier that eliminates the need for external dc-blocking output capacitors. Differential stereo inputs and built-in resistors set the device gain, further reducing external component count. Gain is selectable at –6 dB, 0 dB, 3 dB or 6 dB. The amplifier drives 25 mW into 16 Ω speakers from a single 2.3 V supply. The TPA6132A2 (TPA6132) provides a constant maximum output power independent of the supply voltage, thus facilitating the design for prevention of acoustic shock.

The TPA6132A2 (TPA6132) features fully differential inputs to reduce system noise pickup between the audio source and the headphone amplifier. The high power supply noise rejection performance and differential architecture provides increased RF noise immunity. For single-ended input signals, connect INL+ and INR+ to ground.

The device has built-in pop suppression circuitry to completely eliminate disturbing pop noise during turn-on and turn-off. The amplifier outputs have short-circuit and thermal-overload protection along with ± 8 kV HBM ESD protection, simplifying end equipment compliance to the IEC 61000-4-2 ESD standard. The TPA6132A2 (TPA6132) operates from a single 2.3 V to 5.5 V supply with 2.1 mA of typical supply current. Shutdown mode reduces supply current to less than 1 mA.

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

1.6. U4051 (HY27US08281A-TPIB 128MB TSOP48)

FEATURES SUMMARY

HIGH DENSITY NAND FLASH MEMORIES

- Cost effective solutions for mass storage applications

NAND INTERFACE

- x8 or x16 bus width.
- Multiplexed Address/ Data
- Pinout compatibility for all densities

SUPPLY VOLTAGE

- 3.3V device: VCC = 2.7 to 3.6V : HY27USXX281A

Memory Cell Array

= (512+16) Bytes x 32 Pages x 1,024 Blocks

= (256+8) Words x 32 pages x 1,024 Blocks

PAGE SIZE

- x8 device : (512 + 16 spare) Bytes

: HY27US08281A

- x16 device: (256 + 8 spare) Words

: HY27US16281A

BLOCK SIZE

- x8 device: (16K + 512 spare) Bytes

- x16 device: (8K + 256 spare) Words

PAGE READ / PROGRAM

- Random access: 10us (max.)
- Sequential access: 3.3V device: 50ns (min.)
- Page program time: 200us (typ.)

COPY BACK PROGRAM MODE

- Fast page copy without external buffering

FAST BLOCK ERASE

- Block erase time: 2ms (Typ.)

STATUS REGISTER

ELECTRONIC SIGNATURE

- Manufacturer Code
- Device Code

CHIP ENABLE DON'T CARE OPTION

- Simple interface with microcontroller

AUTOMATIC PAGE 0 READ AT POWER-UP OPTION

- Boot from NAND support
- Automatic Memory Download

SERIAL NUMBER OPTION

HARDWARE DATA PROTECTION

- Program/Erase locked during Power transitions

DATA INTEGRITY

- 100,000 Program/Erase cycles
- 10 years Data Retention

PACKAGE

- HY27US(08/16)281A-T(P)

: 48-Pin TSOP1 (12 x 20 x 1.2 mm)

- HY27US(08/16)281A-T (Lead)

- HY27US(08/16)281A-TP (Lead Free)

- HY27US(08/16)281A-S(P)

: 48-Pin USOP1 (12 x 17 x 0.65 mm)

- HY27US(08/16)281A-S (Lead)

- HY27US(08/16)281A-SP (Lead Free)

SUMMARY DESCRIPTION

The HYNIX HY27US(08/16)281A series is a 16Mx8bit with spare 4G bit capacity. The device is offered in 1.8V Vcc Power Supply and in 3.3V Vcc Power Supply.

Its NAND cell provides the most cost-effective solution for the solid state mass storage market.

The memory is divided into blocks that can be erased independently so it is possible to preserve valid data while old data is erased.

The device contains 1024 blocks, composed by 32 pages consisting in two NAND structures of 16 series connected Flash cells.

A program operation allows to write the 512-byte page in typical 200us and an erase operation can be performed in typical 2ms on a 16K-byte(X8 device) block.

Data in the page mode can be read out at 50ns cycle time per byte. The I/O pins serve as the ports for address and data input/output as well as command input. This interface allows a reduced pin count and easy migration towards different densities, without any rearrangement of footprint.

Commands, Data and Addresses are synchronously introduced using CE#, WE#, ALE and CLE input pin. The on-chip Program/Erase Controller automates all program and erase functions including pulse repetition, where required, and internal verification and margining of data.

The modifying can be locked using the WP# input pin.

The output pin RB# (open drain buffer) signals the status of the device during each operation. In a system with multiple memories the RB# pins can be connected all together to provide a global status signal.

Even the write-intensive systems can take advantage of the HY27US(08/16)281A extended reliability of 100K program/erase cycles by providing ECC (Error Correcting Code) with real time mapping-out algorithm.

Optionally the chip could be offered with the CE# don't care function. This option allows the direct download of the code from the NAND Flash memory device by a microcontroller, since the CE# transitions do not stop the read operation.

The copy back function allows the optimization of defective blocks management: when a page program operation fails the data can be directly programmed in another page inside the same array section without the time consuming serial data insertion phase.

This device includes also extra features like OTP/Unique ID area, Block Lock mechanism, Automatic Read at Power Up, Read ID2 extension.

The Hynix HY27US(08/16)281A series is available in 48 - TSOP1 12 x 20 mm, 48 - USOP1 12 x 17 mm.

1.7. U4053 (MAX3232EEUE TSSOP-16)

General Description

The MAX3222E/MAX3232E/MAX3237E/MAX3241E/MAX3246E +3.0V-powered EIA/TIA-232 and V.28/V.24 communications interface devices feature low power consumption, high data-rate capabilities, and enhanced electrostatic-discharge (ESD) protection. The enhanced ESD structure protects all transmitter outputs and receiver inputs to $\pm 15\text{kV}$ using IEC 1000-4-2 Air-Gap Discharge, $\pm 8\text{kV}$ using IEC 1000-4-2 Contact Discharge ($\pm 9\text{kV}$ for MAX3246E), and $\pm 15\text{kV}$ using the Human Body Model. The logic and receiver I/O pins of the MAX3237E are protected to the above standards, while the transmitter

output pins are protected to $\pm 15\text{kV}$ using the Human Body Model.

A proprietary low-dropout transmitter output stage delivers true RS-232 performance from a +3.0V to +5.5V power supply, using an internal dual charge pump. The charge pump requires only four small 0.1 μF capacitors for operation from a +3.3V supply. Each device guarantees operation at data rates of 250kbps while maintaining RS-232 output levels. The MAX3237E guarantees operation at 250kbps in the normal operating mode and 1Mbps in the MegaBaud™ operating mode, while maintaining RS-232 compliant output levels.

The MAX3222E/MAX3232E have two receivers and two transmitters. The MAX3222E features a 1 μA shutdown mode that reduces power consumption in battery-powered portable systems. The MAX3222E receivers remain active in shutdown mode, allowing monitoring of external devices while consuming only 1 μA of supply current. The MAX3222E and MAX3232E are pin, package, and functionally compatible with the industry-standard MAX242 and MAX232, respectively.

The MAX3241E/MAX3246E are complete serial ports (three drivers/five receivers) designed for notebook and subnotebook computers. The MAX3237E (five drivers/three receivers) is ideal for peripheral applications that require fast data transfer. These devices feature a shutdown mode in which all receivers remain active, while consuming only 1 μA (MAX3241E/MAX3246E) or 10nA (MAX3237E).

The MAX3222E, MAX3232E, and MAX3241E are available in space-saving SO, SSOP, TQFN and TSSOP packages. The MAX3237E is offered in an SSOP package. The MAX3246E is offered in the ultra-small 6 x 6 UCSP™ package.

Applications

Battery-Powered Equipment Printers

Cell Phones Smart Phones

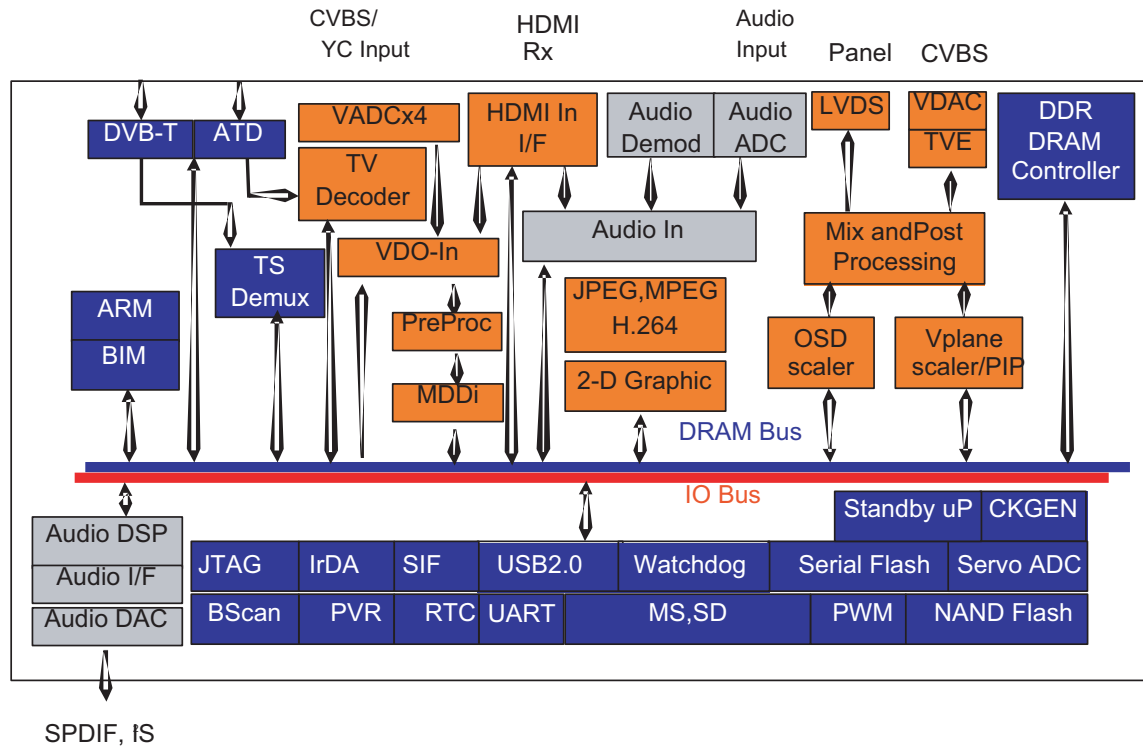
Cell-Phone Data Cables xDSL Modems

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320
Notebook, Subnotebook,
and Palmtop Computers

2. Detailed ICs Information

2.1. U401 (MT5363LICG BGA-522)

2.1.1 Block Diagram



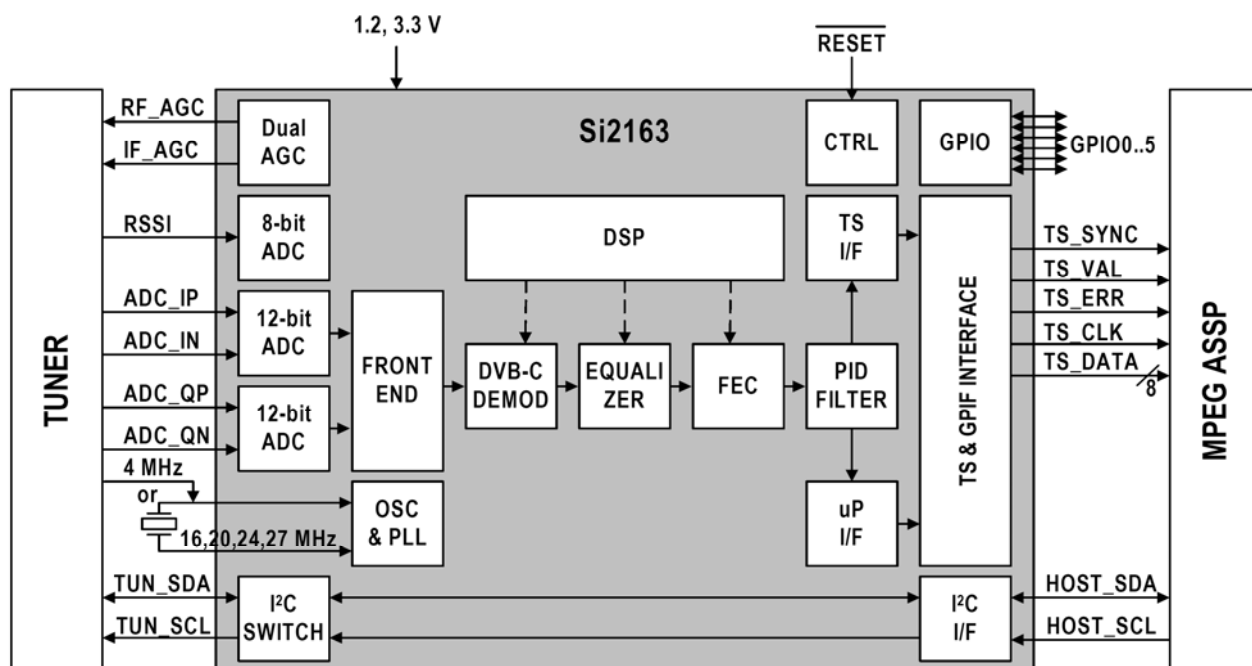
2.1.2 Pin Connections

LT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
A		RCLK0		RDQ10		RDQ15		RDQS0		RDQ14		RDQ12				AO1N		AOCKN	
B	VCC2IO		RCLK0		RDQ8		RDQS1		RDQS0		RDQ11		VCC2IO		AO0N		AO2N		AO3N
C		VCC2IO		RDQ13		RDQS1		DVSS		RDQM1		VCC2IO				AO1P		AOCKP	
D	RA9		VCC2IO		RDQ5		RDQ0		DVSS		RDQ9		VCC2IO		AO0P		AO2P		AO3P
E		RA12		VCC2IO		RDQ2		DVSS		RDQM0		VCC2IO		VCC2IO		AE0N		AE2N	
F	RA5		RA7		VCC2IO		RDQ7		DVSS		RDQ6		VCC2IO		AVDD33_LVDS		AE1N		AECKN
G		RA10		RA3		VCC2IO		DVSS		DVSS		RDQ3		VCC2IO		AE0P		AE2P	
H	RBA2		RBA0		RA1		VCC2IO				RDQ1		RDQ4		AVDD33_LVDS		AE1P		AECKP
J		RBA1		DVSS		DVSS								VCC2IO				AVSS33_LVDS	
K	RCKE		RWE		MEMTN		MEMTP												
L		RCAS		DVSS		DVSS													
M	RA13		RA2		RA4		RA6												TP_VPLL
N		RA11		RA0		RODT		RVREF						DVSS		AVDD12_LVDS		AVDD12_VPLL	
P	RA8		RCS		RRAS		RVREF						AVDD12_MEMPLL		DVSS		AVSS12_LVDS		AVSS12_VPLL
R		VCC2IO		VCC2IO		VCC2IO								DVSS		VCCK		DVSS	
T	RDQ19		RDQ20		RDQ30		RDQ25						AVSS12_MEMPLL		DVSS		DVSS		DVSS
U		RDQ22		RDQ17		RDQM3								VCCK		DVSS		DVSS	
V	RDQM2		RDQS2		RDQ28		RDQ27						VCCK		DVSS		DVSS		DVSS
W		RDQS2		DVSS		DVSS								DVSS		DVSS		DVSS	
Y	RDQS3		DVSS		RDQ24		RDQ31						VCCK		VCCK		DVSS		DVSS
AA		RDQS3		RDQ29		RDQ26								VCCK		DVSS		DVSS	
AB	RDQ16		RDQ23		REXTDN								DVSS		DVSS		DVSS		DVSS
AC		RDQ21		RDQ18		VCC2IO								DVSS		DVSS		DVSS	
AD	RCLK1		RCLK1		VCC2IO		VCC2IO						DVSS		VCCK		VCCK		VCCK
AE		VCC2IO		VCC2IO		GPIO39		DVSS						VCCK		VCCK		VCCK	
AF	VCC2IO		VCC2IO		GPIO37		GPIO40		DVSS				VCCIO33-1		VCCIO33-1				
AG		GPIO38		GPIO41		GPIO42						VCCK							
AH	GPIO44		GPIO43		JTDO		VCCK												
AJ		JTDI		JTMS		VCCK		VCCK											
AK	JTRST		JTCK		VCCK		VCCK												
AL		VCCK		VCCK		VCCK		VCCK		AVDD12_USB		HDMI_S CL2		HDMI_S DA2		PWR5V_1		HDMI_H PD1	
AM	VCCK		VCCK		VCCK		VCCK		AVSS12_USB		AVDD33_USB		AVDD33_HDMI		PWR5V_2		HDMI_S CL1		OPCTRL 1
AN		VCCK		VCCK		POCE1				USB_VRT		AVSS33_HDMI		HDMI_C EC		HDMI_H PD2		HDMI_S DA1	
AP	OSDA0		OSCL0		PDD1		PDD4		AVSS33_USB		AVDD12_HDMI		RX2_0		RX2_2		RX1_0		RX1_2
AR		PDD0		PAALE		PDD2		PDD6		USB_DM		RX2_C		RX2_1		RX1_C		RX1_1	
AT	POCE0		POWE		PARB		PDD5		AVSS33_USB		AVSS33_USB		RX2_0B		RX2_2B		RX1_0B		RX1_2B
AU		POOE		PACLE		PDD3		PDD7		USB_DP		RX2_CB		RX2_1B		RX1_CB		RX1_1B	
AV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

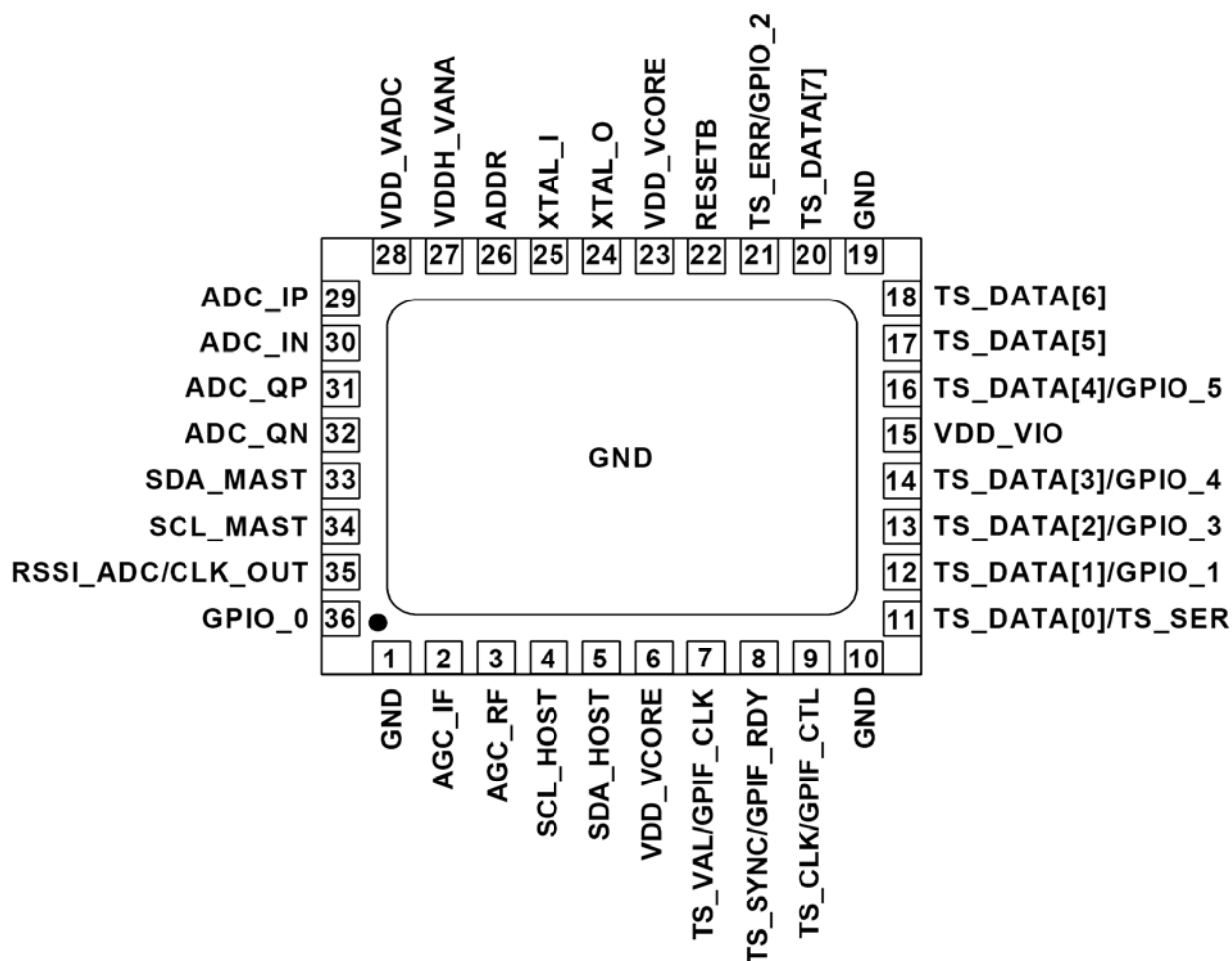
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	RT	
AO4N		GPIO35				GPIO21				GPIO3		ETTXD0		ETRXD2		ETRXD0			A
	DVSS		GPIO32		GPIO26		GPIO17		GPIO9		ETTXD3		ETRXCLK		ETRXD1		ETRXDV		B
AO4P		GPIO36		GPIO28		GPIO22		GPIO11		GPIO4		ETTXD1		ETRXD3		ETCRS			C
	DVSS		GPIO34		GPIO27		GPIO18		GPIO10		ETTXEN		ETTXCLK		ETRXER		ETMDIO		D
AE3N		DVSS		GPIO30		GPIO20		GPIO12		GPIO6		ETTXD2		ETTXER		ETMDC			E
	AE4N		GPIO33		GPIO24		GPIO16		GPIO8		ETPHYCLK		CI_MCLK0		CI_MCLK1		CI_MOSTRT		F
AE3P		DVSS		GPIO29		GPIO19		GPIO14		GPIO5		ETCOL		CI_MIVAL		CI_MOVEAL			G
	AE4P		VCCIO33		GPIO25		GPIO15		GPIO7		VCCIO33		CI_MISTR		CI_MDI0		CI_MDO		H
				GPIO31		GPIO23		GPIO13		VCCIO33		GPIO2		OPWM0		OPWM1	0		J
											AOSDAT_A3		ASPDIF		GPIO0		GPIO1		K
										FSRC_WR		ALIN		AOBCK		AOSDAT_A0			L
											IF_AGC		RF_AGC		AOMCLK		AOLRCK		M
DVSS		VCCCK		VCCCK								AOSDAT_A4		TUNER_DATA		TUNER_CLK			N
	DVSS		DVSS		DVSS						OSCL2		OSDA2		AOSDAT_A1		AOSDAT_A2		P
DVSS		DVSS		DVSS								OSDA1		OSCL1		U1RX			R
	DVSS		DVSS		VCCCK						AVDD33_ADAC1		OPWM2		U1TX		VCCCK		T
DVSS		DVSS		DVSS						AVSS33_ADAC1		AL1		AR2		AR3			U
	DVSS		DVSS		VCCCK						VCCIO33		AR1		AL2		AL3		V
DVSS		DVSS		VCCCK						AVDD33_REF_A		VCCIO33		VCCIO33		VCCIO33			W
	DVSS		DVSS		VCCCK				AVSS33_REF_AA		AVDD33_AADC		AVSS33_AADC		AIN5_R_AADC		AIN6_R_AADC		Y
DVSS		DVSS		VCCCK						VIMID_A_ADC		AIN4_L_AADC		AIN5_L_AADC		AIN6_L_AADC			AA
	DVSS		DVSS		VCCCK						AIN1_L_AADC		AIN4_R_AADC		AIN2_R_AADC		AIN3_R_AADC		AB
DVSS		DVSS		DVSS								AIN1_R_AADC		AIN0_R_AADC		AIN3_L_AADC			AC
	DVSS		DVSS		DVSS								AIN0_L_AADC		AIN2_L_AADC				AD
VCCCK		VCCCK		DVSS										AVSS33_ADAC0		AR0			AE
									AVDD12_TVDP					AVDD33_3_ADA		AVICM		AL0	AF
										AVDD12_APLL		AVDD12_SYSP		AVDD33_3_DEM		AVSS33_DEMOD1			AG
									AVSS12_PLL		AVSS12_PLL		AVDD12_ADCPLL		ADCINN_DEMOD		ADCINP_DEMOD		AH
										AVSS33_DIG				XTALO		XTALI			AJ
									AVSS33_SIF		AVDD33_DIG		ADIN1_S_RV		AVDD33_XTAL_S		AVSS33_XT		AK
OPWRSE		ORESET		AVSS33_VGA_ST						AVDD33_SIF		ADIN0_S_RV		ADIN3_S_RV		ADIN5_S_RV			AL
	OPCTRL0		AVDD10_LDO		AVDD12_RGB				FS_VDAC		BYPASS0		AF		ADIN2_S_RV		ADIN4_S_RV		AM
OPCTRL2		OIRI		AVDD33_VGA_S		AVSS12_RGB				AVDD33_VDAC		AVDD33_CVBS		MPXP		MPXN			AN
	U0TX		SOG		SOY1		PR1P		PB0P		VDAC_O		SY0		CVBS2P		TUNER_		AP
OPCTRL3		HSYNC		COM		COM1		Y0P		AVSS33_VDAC		UT1	AVSS33_CVBS		SY1		CVBS0N	BYPASS	AR
	U0RX		BP		RP		PB1P		COM0		VDAC_O		SC0		CVBS3P		CVBS0P		AT
OPCTRL4		VSYNC		GP		Y1P		SOY0		PR0P				SC1		CVBS1P			AU
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		RB

2.2. U101 (Si2163 QFN-36)

2.2.1 Block Diagram

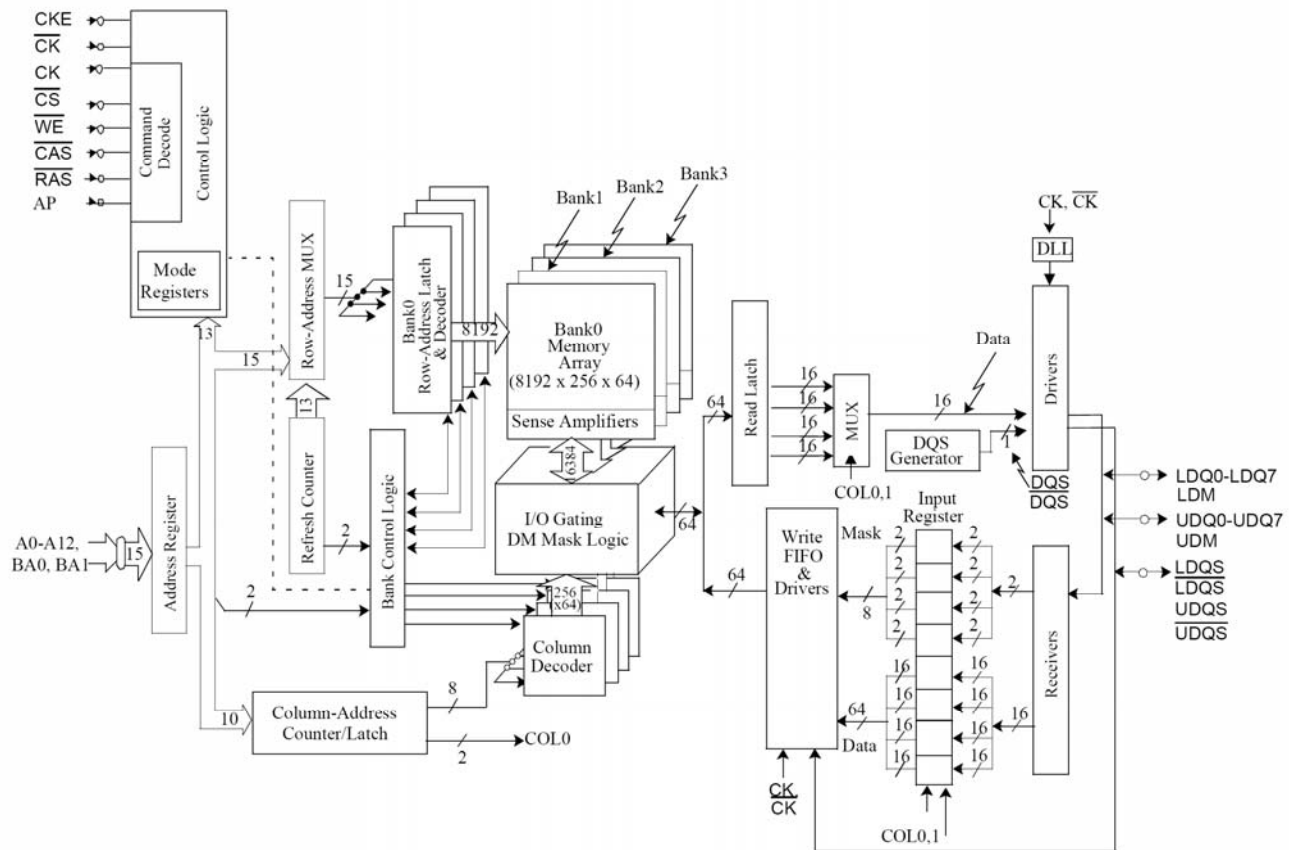


2.2.2 Pin Connections and short description



2.3. U402 (NT5TU32M16CG-BD BGA-84)

2.3.1 Block Diagram



Note: This Functional Block Diagram is intended to facilitate user understanding of the operation of the device; it does not represent an actual circuit implementation.

Note: DM is a unidirectional signal (input only), but is internally loaded to match the load of the bidirectional DQ and DQS signals.

2.3.2 Pin Connections and short description

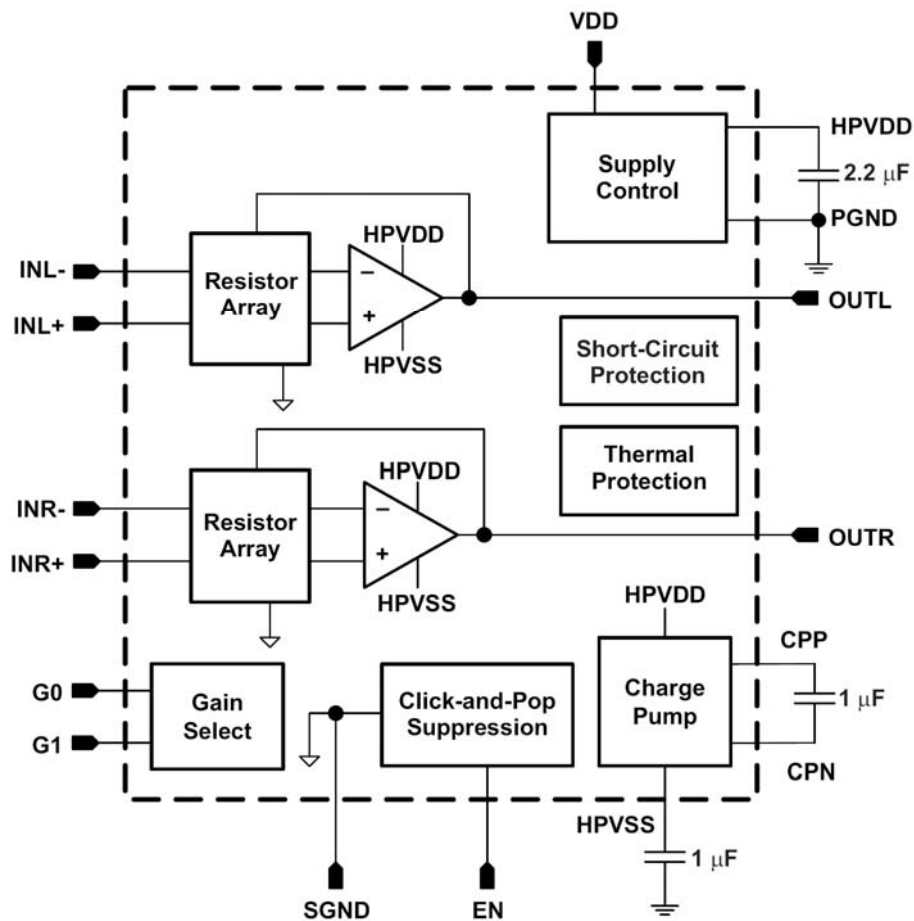
x 16					
1	2	3	7	8	9
VDD	NC	VSS	A VSSQ	UDQS	VDDQ
DQ14	VSSQ	UDM	B UDQS	VSSQ	DQ15
VDDQ	DQ9	VDDQ	C VDDQ	DQ8	VDDQ
DQ12	VSSQ	DQ11	D DQ10	VSSQ	DQ13
VDD	NC	VSS	E VSSQ	LDQS	VDDQ
DQ6	VSSQ	LDM	F LDQS	VSSQ	DQ7
VDDQ	DQ1	VDDQ	G VDDQ	DQ0	VDDQ
DQ4	VSSQ	DQ3	H DQ2	VSSQ	DQ5
VDDL	VREF	VSS	J VSSDL	CK	VDD
	CKE	WE	K RAS	CK	ODT
NC	BA0	BA1	L CAS	CS	
	A10/AP	A1	M A2	A0	VDD
VSS	A3	A5	N A6	A4	
	A7	A9	P A11	A8	VSS
VDD	A12	NC	R NC	NC	

Input/Output Functional Description

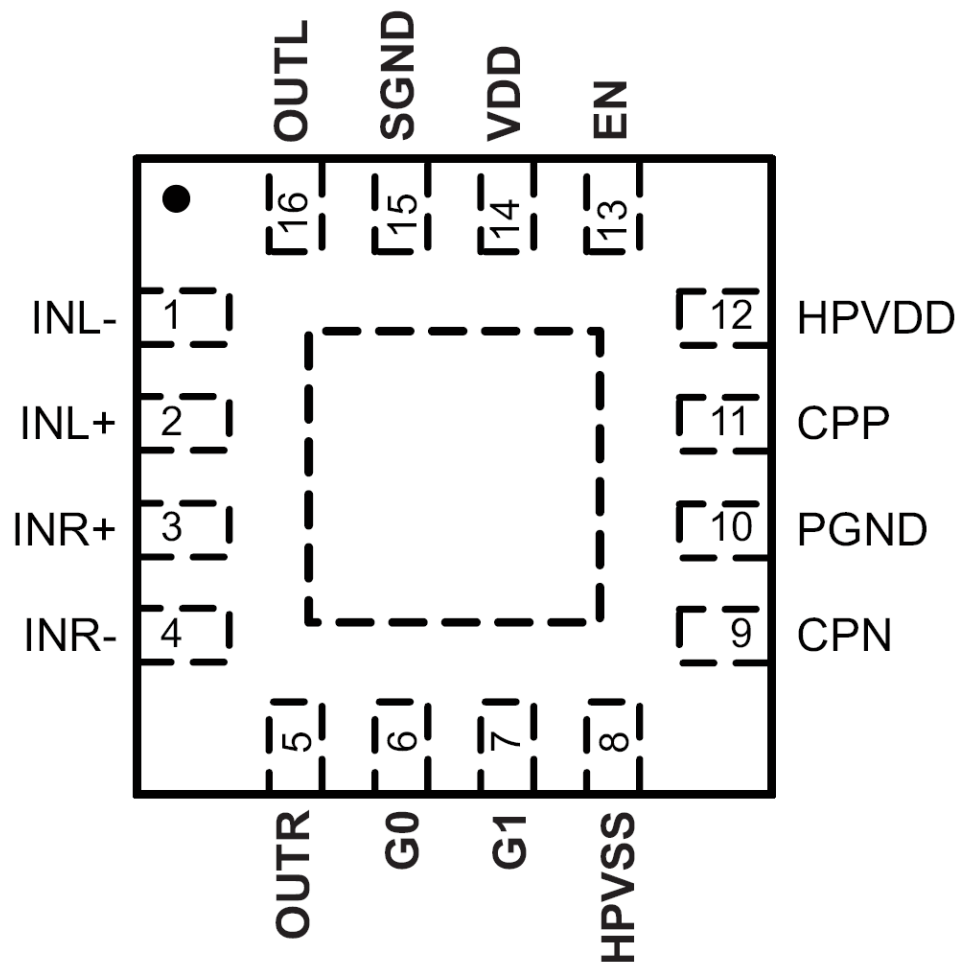
Symbol	Type	Function
CK, $\overline{\text{CK}}$	Input	Clock: CK and $\overline{\text{CK}}$ are differential clock inputs. All address and control input signals are sampled on the crossing of the positive edge of CK and negative edge of $\overline{\text{CK}}$. Output (read) data is referenced to the crossings of CK and $\overline{\text{CK}}$ (both directions of crossing).
CKE	Input	Clock Enable: CKE high activates and CKE low deactivates internal clock signals and device input buffers and output drivers. Taking CKE low provides Precharge Power-Down and Self-Refresh operation (all banks idle), or Active Power-Down (row Active in any bank). CKE is synchronous for power down entry and exit and for Self-Refresh entry. CKE is asynchronous for Self-Refresh exit. $\overline{\text{CKE}}$ must be maintained high throughout read and write accesses. Input buffers, excluding CK, $\overline{\text{CK}}$, ODT and CKE are disabled during Power Down. Input buffers, excluding CKE are disabled during Self-Refresh.
$\overline{\text{CS}}$	Input	Chip Select: All command are masked when $\overline{\text{CS}}$ is registered high. $\overline{\text{CS}}$ provides for external rank selection on systems with multiple memory ranks. CS is considered part of the command code.
$\overline{\text{RAS}}$, $\overline{\text{CAS}}$, $\overline{\text{WE}}$	Input	Command Inputs: $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ (along with $\overline{\text{CS}}$) define the command being entered.
DM, LDM, UDM	Input	Input Data Mask: DM is an input mask signal for write data. Input data is masked when DM is sampled high coincident with that input data during a Write access. DM is sampled on both edges of DQS. Although DM pins are input only, the DM loading matches the DQ and DQS loading. LDM and UDM are the input mask signals for x16 components and control the lower or upper bytes. For x8 components the data mask function is disabled, when RDQS / $\overline{\text{RDQS}}$ are enabled by EMR(1) command.
BA0, BA1	Input	Bank Address Inputs: BA0 and BA1 define to which bank an Active, Read, Write or Precharge command is being applied. BA0 and BA1 also determines if the mode register or extended mode register is to be accessed during a MRS or EMR cycle.
A0 - A13	Input	Address Inputs: Provides the row address for Activate commands and the column address and Auto-Precharge bit A10 (=AP) for Read/Write commands to select one location out of the memory array in the respective bank. A10 (=AP) is sampled during a Precharge command to determine whether the Precharge applies to one bank (A10=low) or all banks (A10=high). If only one bank is to be precharged, the bank is selected by BA0 and BA1. The address inputs also provide the op-code during Mode Register Set commands. Row address A13 is used on x4 and x8 components only.
DQ	Input/Output	Data Inputs/Output: Bi-directional data bus.
DQS, $\overline{\text{DQS}}$ LDQS, $\overline{\text{LDQS}}$, UDQS, $\overline{\text{UDQS}}$	Input/Output	Data Strobe: output with read data, input with write data. Edge aligned with read data, centered with write data. For the x16, LDQS corresponds to the data on LDQ0 - LDQ7; UDQS corresponds to the data on UDQ0-UDQ7. The data strobes DQS, LDQS, UDQS may be used in single ended mode or paired with the optional complementary signals $\overline{\text{DQS}}$, $\overline{\text{LDQS}}$, $\overline{\text{UDQS}}$ to provide differential pair signaling to the system during both reads and writes. An EMR(1) control bit enables or disables the complementary data strobe signals.
RDQS, $\overline{\text{RDQS}}$	Input/Output	Read Data Strobe: For the x8 components a RDQS, $\overline{\text{RDQS}}$ pair can be enabled via the EMR(1) for read timing. RDQS, $\overline{\text{RDQS}}$ is not supported on x4 and x16 components. RDQS, $\overline{\text{RDQS}}$ are edge-aligned with read data. If RDQS, $\overline{\text{RDQS}}$ is enabled, the DM function is disabled on x8 components.
ODT	Input	On Die Termination: ODT (registered HIGH) enables termination resistance internal to the DDR2 SDRAM. When enabled, ODT is applied to each DQ, DQS, $\overline{\text{DQS}}$ and DM signal for x4 and DQ, DQS, $\overline{\text{DQS}}$, RDQS, $\overline{\text{RDQS}}$ and DM for x8 configurations. For x16 configuration ODT is applied to each DQ, UDQS, $\overline{\text{UDQS}}$, LDQS, $\overline{\text{LDQS}}$, UDM and LDM signal. The ODT pin will be ignored if the EMR(1) is programmed to disable ODT.
NC		No Connect: No internal electrical connection is present.
V _{DDQ}	Supply	DQ Power Supply: 1.8V +/- 0.1V
V _{SSQ}	Supply	DQ Ground
V _{DDL}	Supply	DLL Power Supply: 1.8V +/- 0.1V
V _{SSDL}	Supply	DLL Ground
V _{DD}	Supply	Power Supply: 1.8V +/- 0.1V
V _{SS}	Supply	Ground
V _{REF}	Supply	SSTL_1.8 reference voltage

2.5. U602 (TPA6132A2RTER 25mW QFN-16)

2.5.1 Block Diagram



2.5.2 Pin Connections and short description

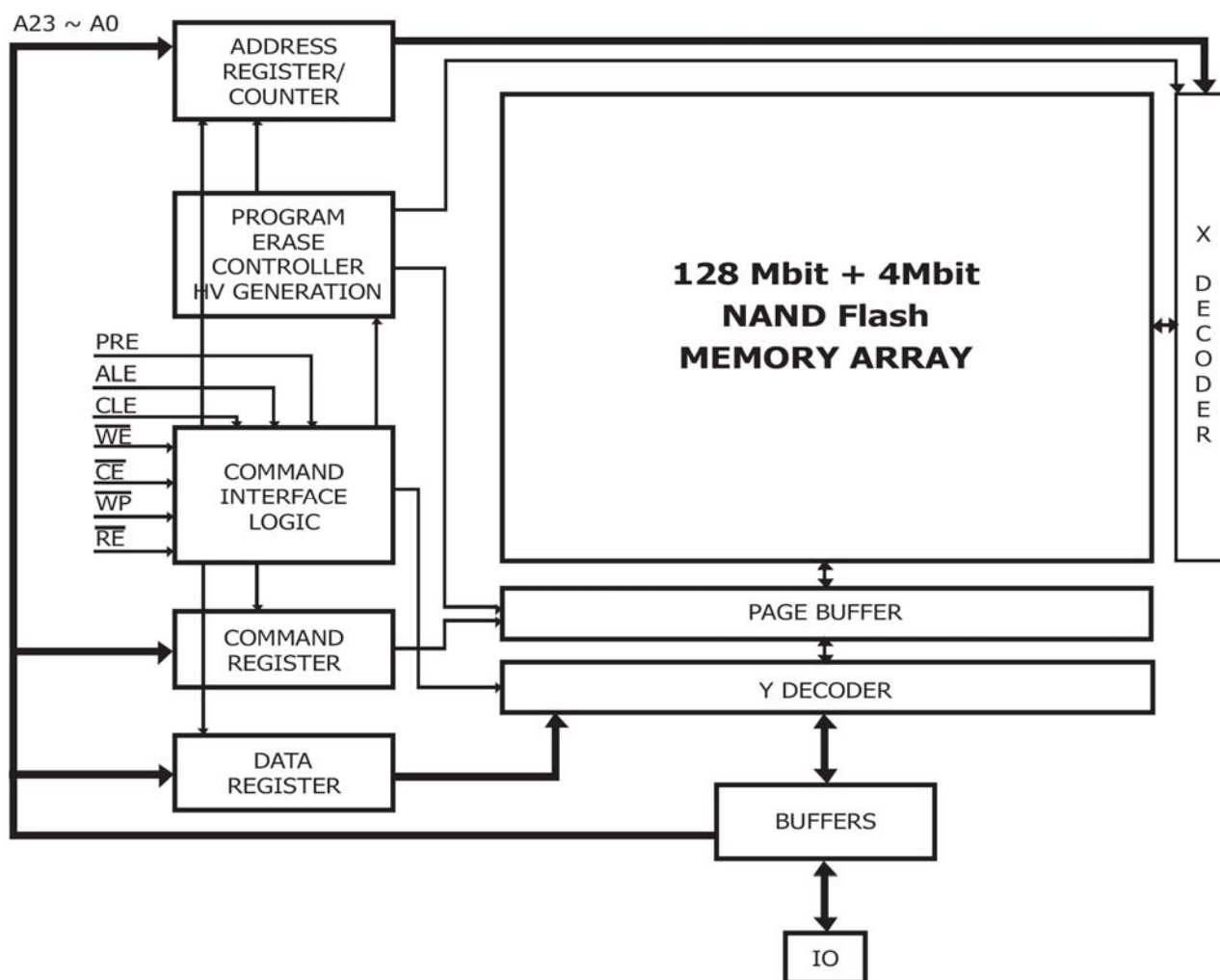


Pin configuration

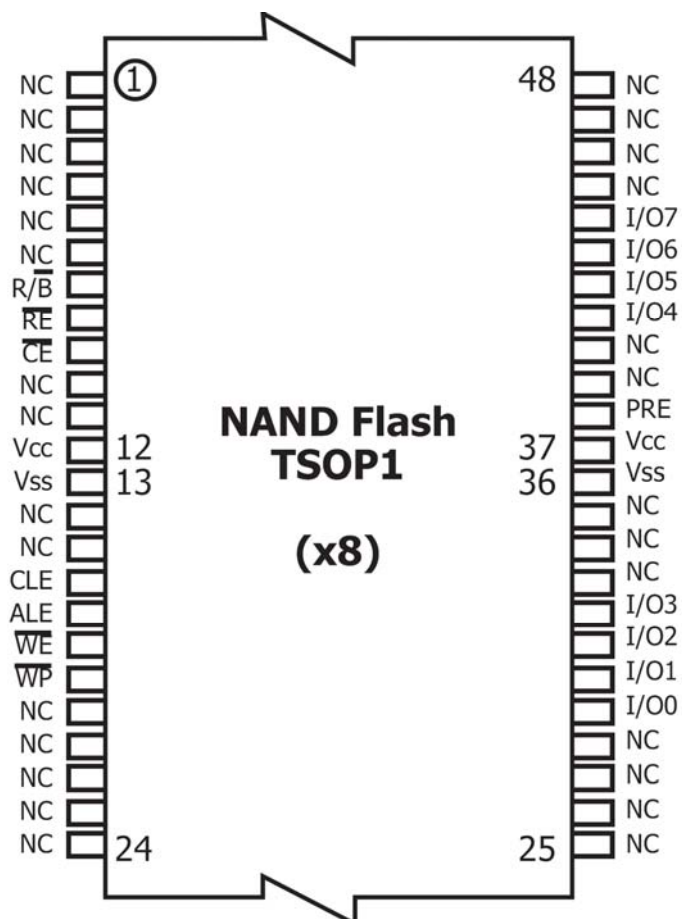
PIN		I/O/P	PIN DESCRIPTION
NAME	QFN		
INL-	1	I	Inverting left input for differential signals; left input for single-ended signals
INL+	2	I	Non-inverting left input for differential signals. Connect to ground for single-ended input applications
INR+	3	I	Non-inverting right input for differential signals. Connect to ground for single-ended input applications
INR-	4	I	Inverting right input for differential signals; right input for single-ended signals
OUTR	5	O	Right headphone amplifier output. Connect to right terminal of headphone jack
G0	6	I	Gain select
G1	7	I	Gain select
HPVSS	8	P	Charge pump output and negative power supply for output amplifiers; connect 1 μ F capacitor to GND
CPN	9	P	Charge pump negative flying cap. Connect to negative side of 1 μ F capacitor between CPP and CPN
PGND	10	P	Ground
CPP	11	P	Charge pump positive flying cap. Connect to positive side of 1 μ F capacitor between CPP and CPN
HPVDD	12	P	Positive power supply for headphone amplifiers. Connect to a 2.2 μ F capacitor. Do not connect to VDD
EN	13	I	Amplifier enable. Connect to logic low to shutdown; connect to logic high to activate
VDD	14	P	Positive power supply for TPA6132A2
SGND	15	I	Amplifier reference voltage. Connect to ground terminal of headphone jack
OUTL	16	O	Left headphone amplifier output. Connect to left terminal of headphone jack
Thermal Pad	–	P	Solder the exposed metal pad on the TPA6132A2RTE QFN package to the landing pad on the PCB. Connect the landing pad to ground or leave it electrically unconnected (floating).

2.6. U4051 (HY27US08281A-TPIB 128MB TSOP48)

2.6.1 Block Diagram



2.6.2 Pin Connections and short description

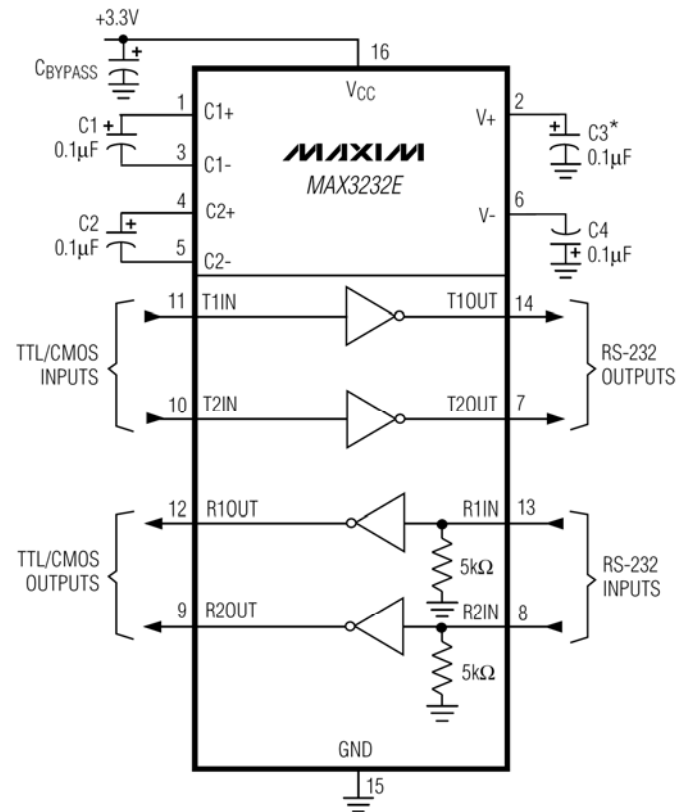


Pin configuration

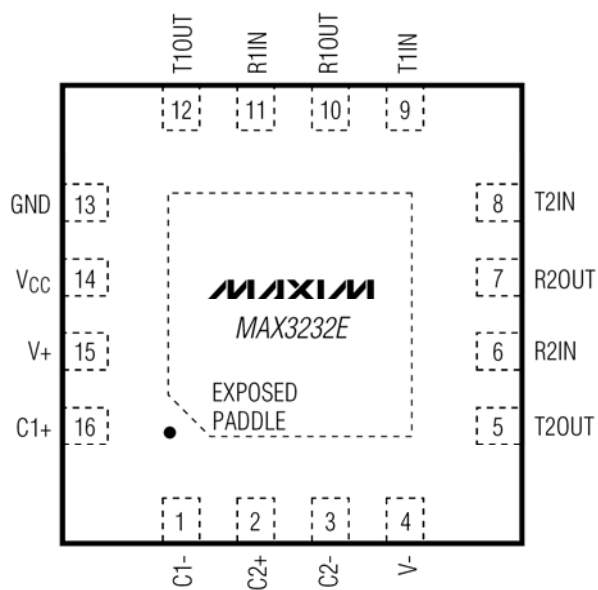
Pin Name	Description
IO0-IO7 IO8-IO15(1)	DATA INPUTS/OUTPUTS The IO pins allow to input command, address and data and to output data during read / program operations. The inputs are latched on the rising edge of Write Enable (WE#). The I/O buffer float to High-Z when the device is deselected or the outputs are disabled.
CLE	COMMAND LATCH ENABLE This input activates the latching of the IO inputs inside the Address Register on the Rising edge of Write Enable (WE#).
ALE	ADDRESS LATCH ENABLE This input activates the latching of the IO inputs inside the Command Register on the Rising edge of Write Enable (WE#).
CE#	CHIP ENABLE This input controls the selection of the device. When the device is busy CE# low does not deselect the memory.
WE#	WRITE ENABLE This input acts as clock to latch Command, Address and Data. The IO inputs are latched on the rise edge of WE#.
RE#	READ ENABLE The RE# input is the serial data-out control, and when active drives the data onto the I/O bus. Data is valid tREA after the falling edge of RE# which also increments the internal column address counter by one.
WP#	WRITE PROTECT The WP# pin, when Low, provides an Hardware protection against undesired modify (program / erase) operations.
RB#	READY BUSY The Ready/Busy output is an Open Drain pin that signals the state of the memory.
VCC	SUPPLY VOLTAGE The VCC supplies the power for all the operations (Read, Write, Erase).
VSS	GROUND
NC	NO CONNECTION
PRE	To Enable and disable the Lock mechanism and Power On Auto Read. When PRE is a logic high, Block Lock mode and Power-On Auto-Read mode are enabled, and when PRE is a logic low, Block Lock mode and Power-On Auto-Read mode are disabled. Power-On Auto-Read mode is available only on 3.3V device. Not using LOCK MECHANISM & POWER-ON AUTO-READ, connect it Vss or leave it N.C.

2.7. U4053 (MAX3232EEUE TSSOP-16)

2.7.1 Block Diagram



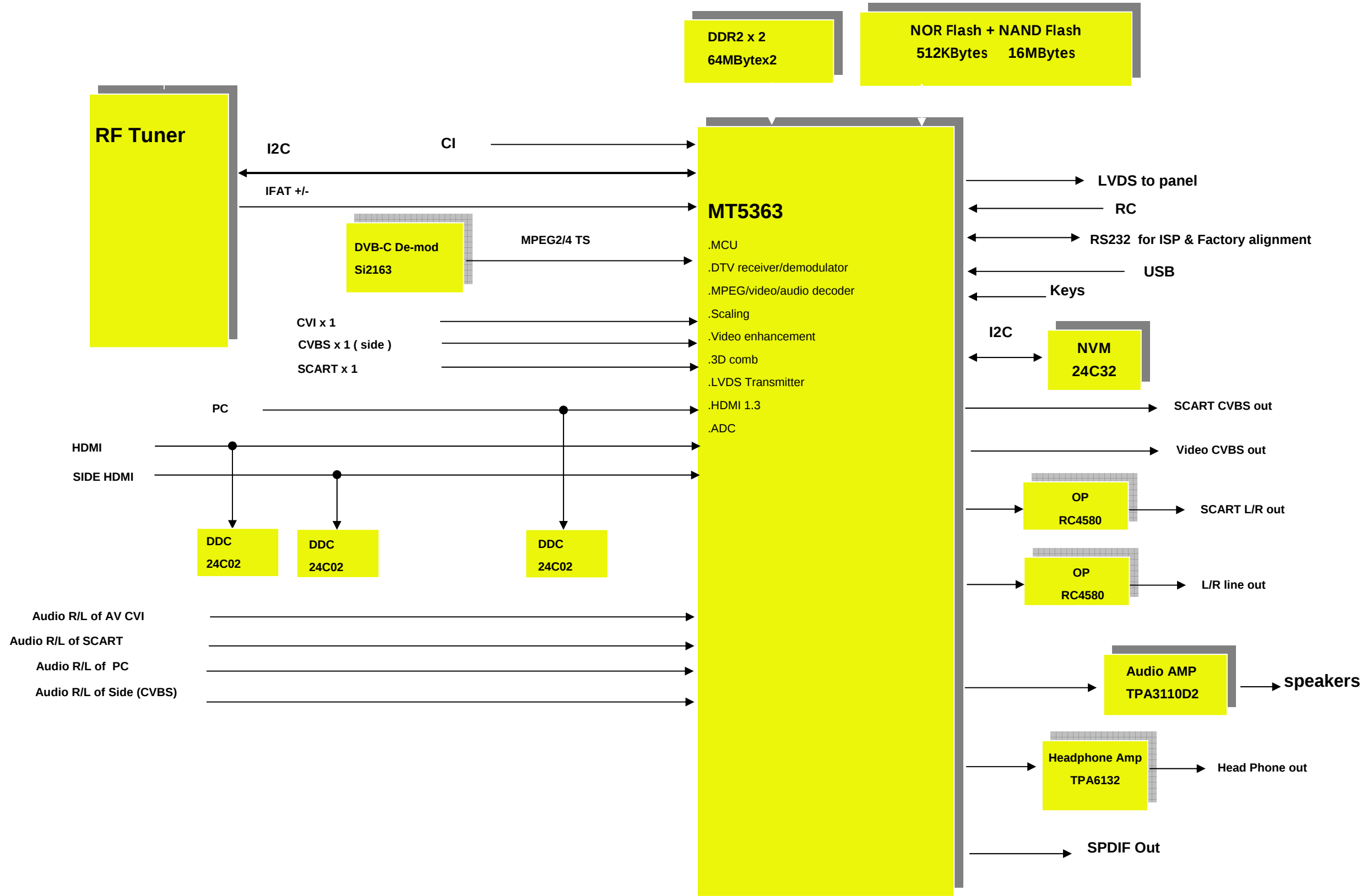
2.7.2 Pin Connections and short description



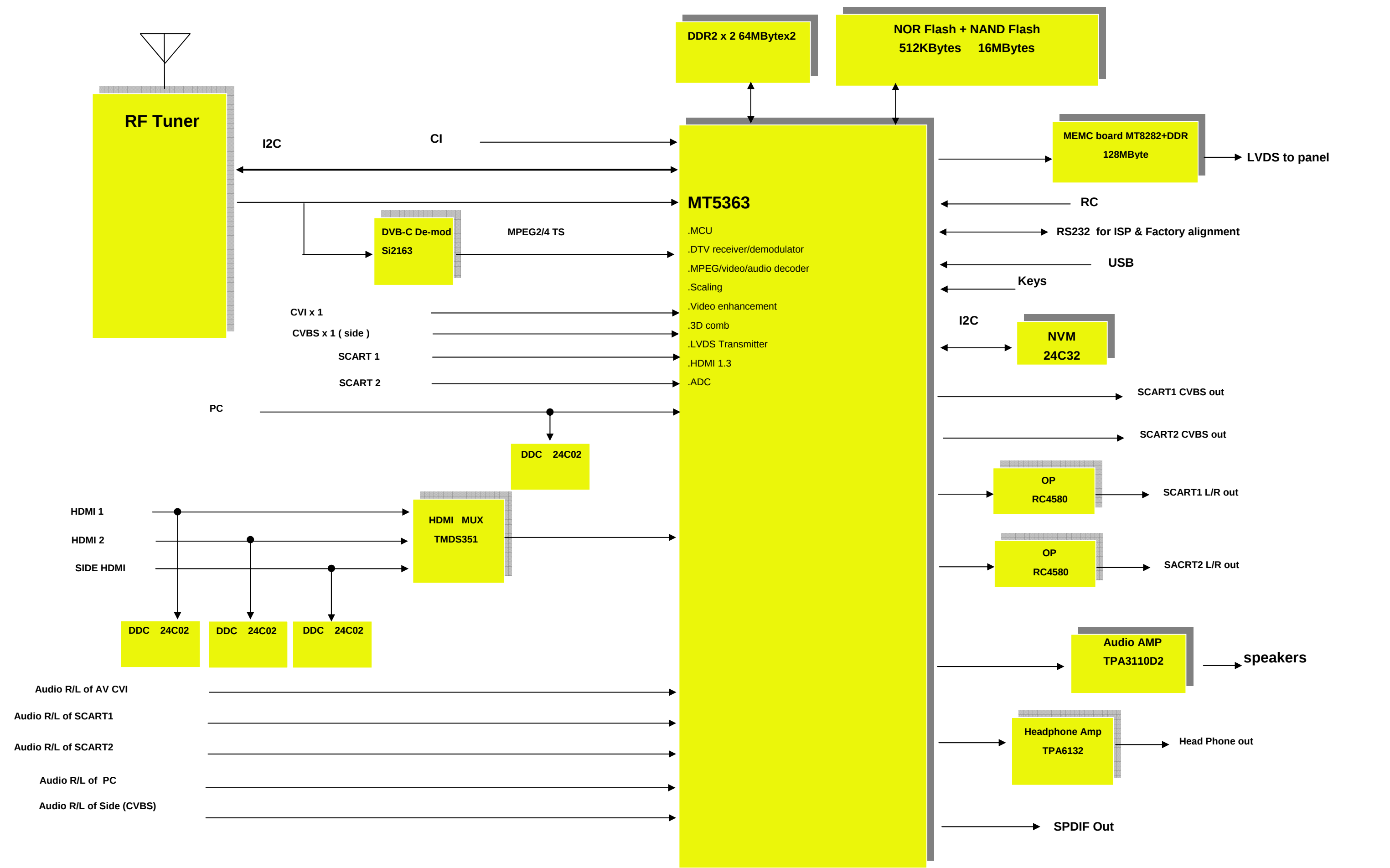
CHAPTER 6. BLOCK DIAGRAM/WIRING DIAGRAM

[1] BLOCK DIAGRAM

Function block of main Board 19"/22"/26"

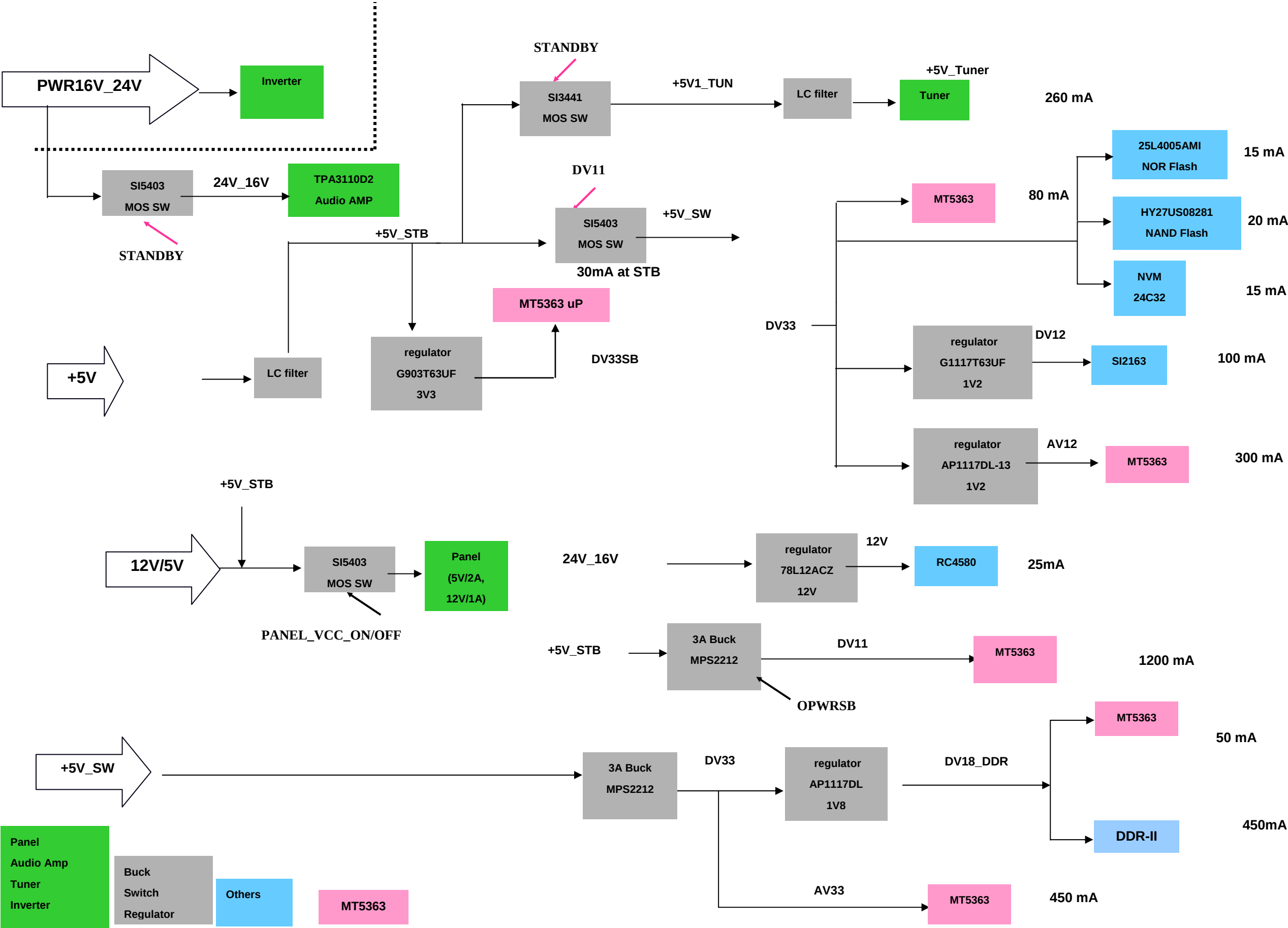


Function block of main Board 32"/37"/42"



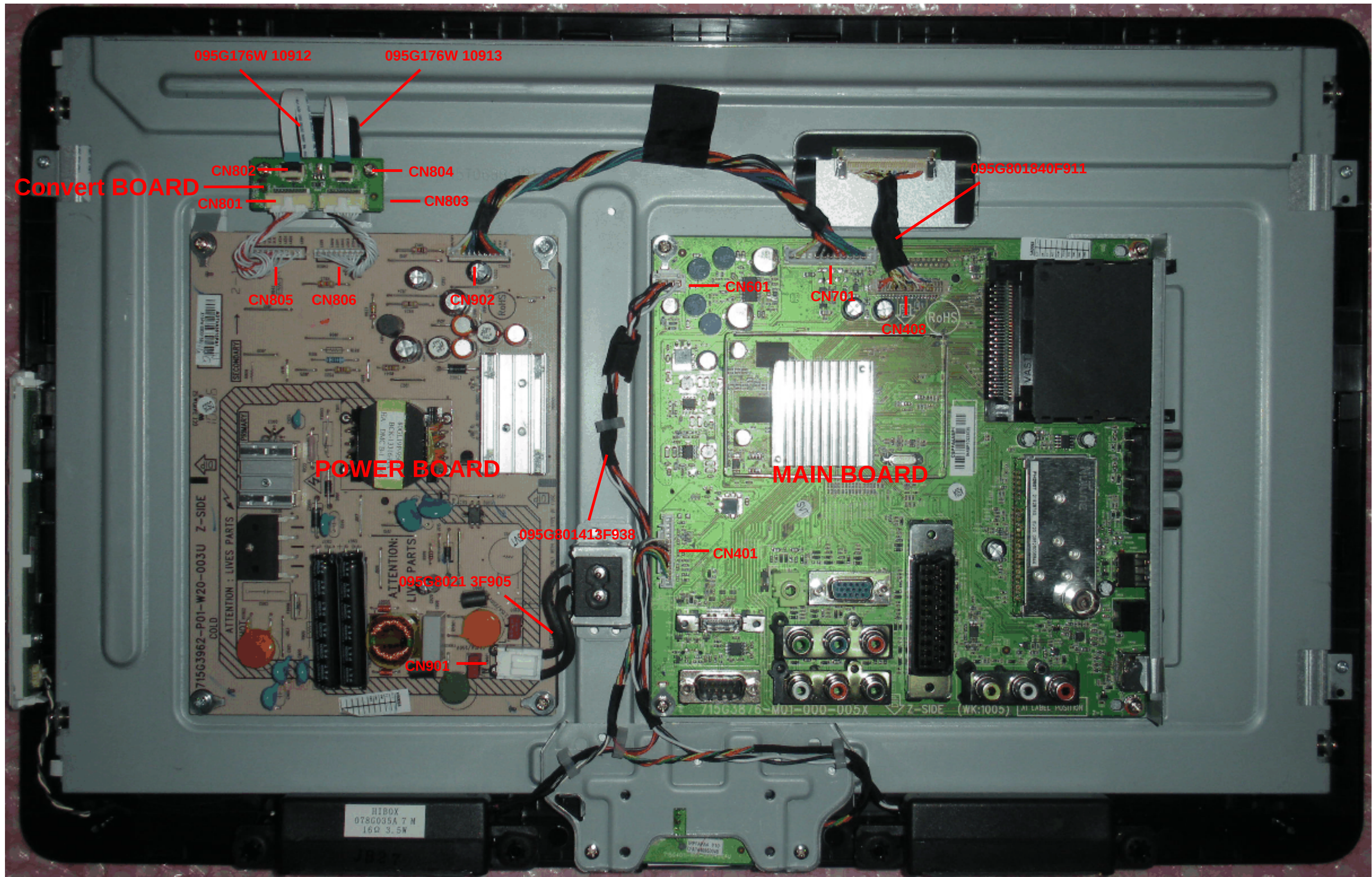
[2] POWER MANAGEMENT BLOCK DIAGRAM

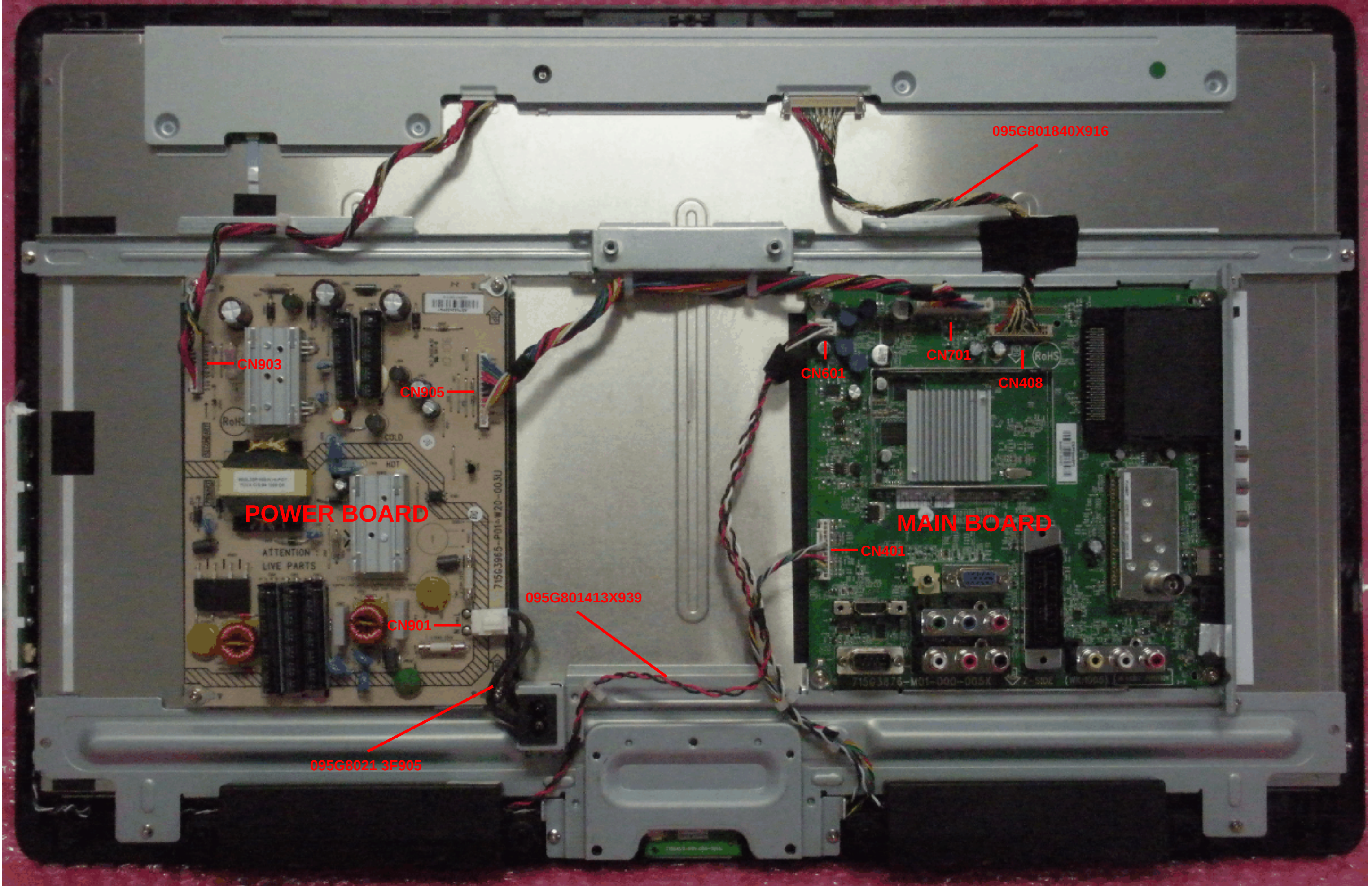
Sharp EU 19"/22"/26" MT5363 Power management





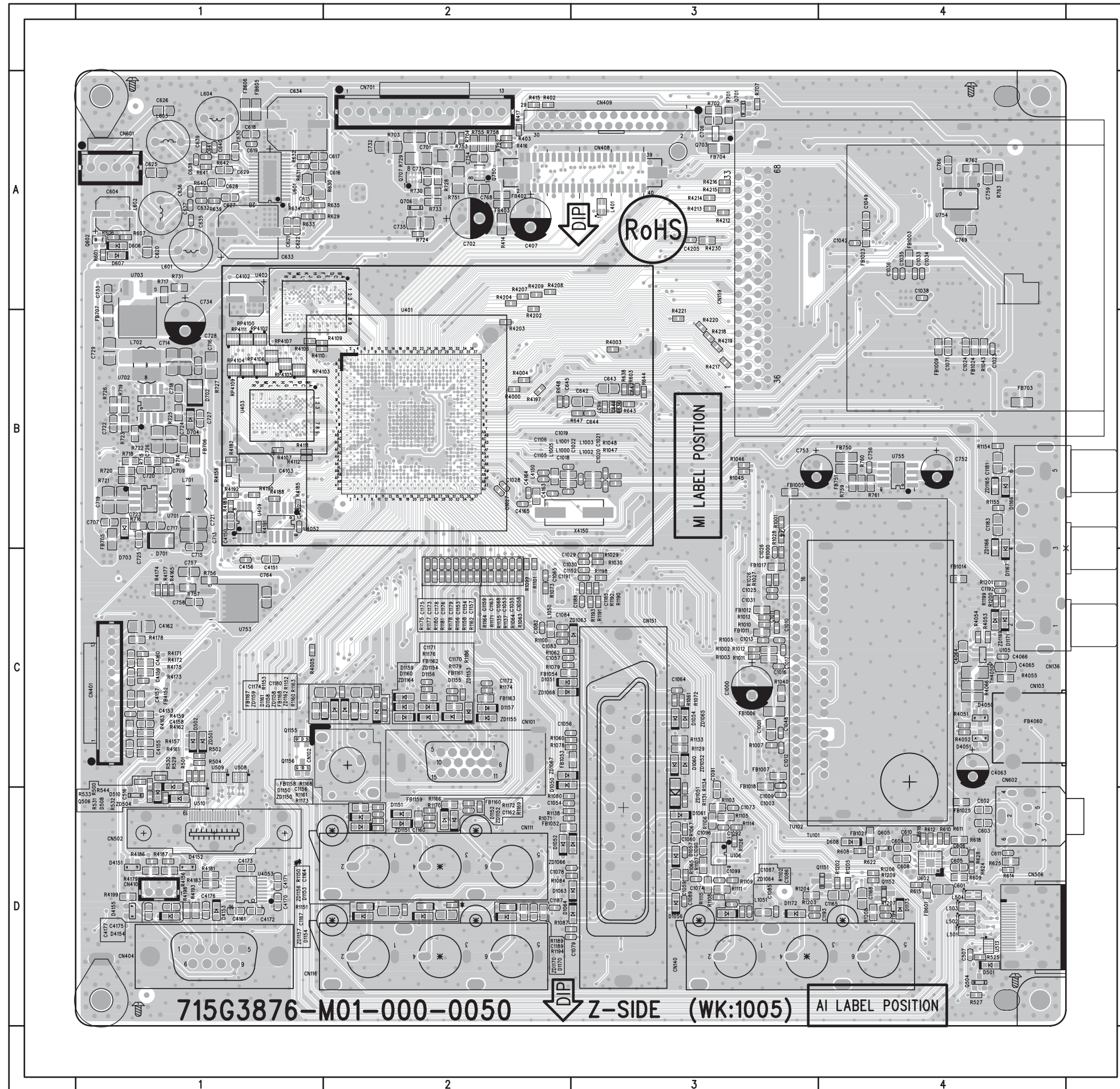
[3] 22" WIRING DIAGRAM(LC_22LE320)

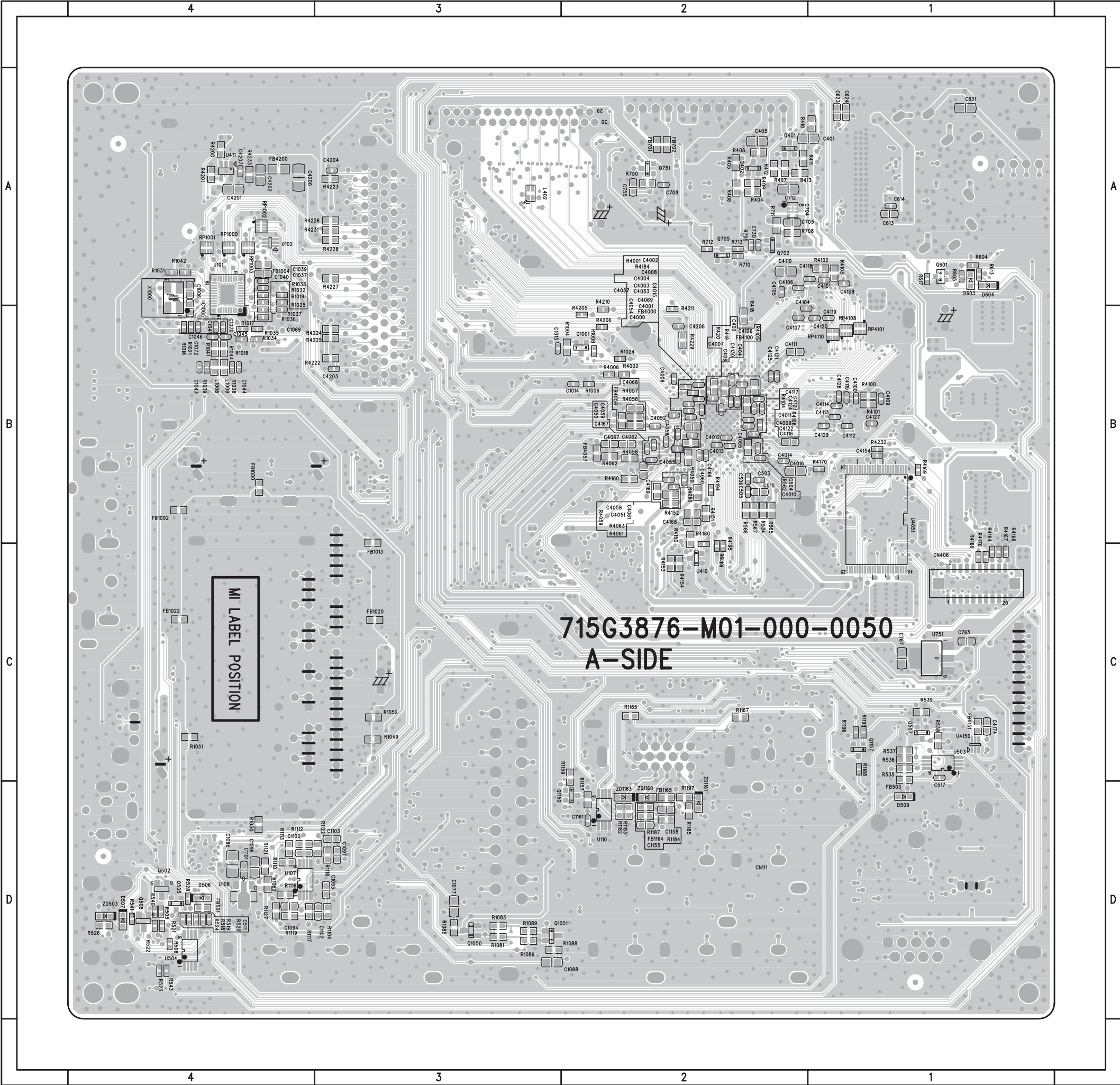




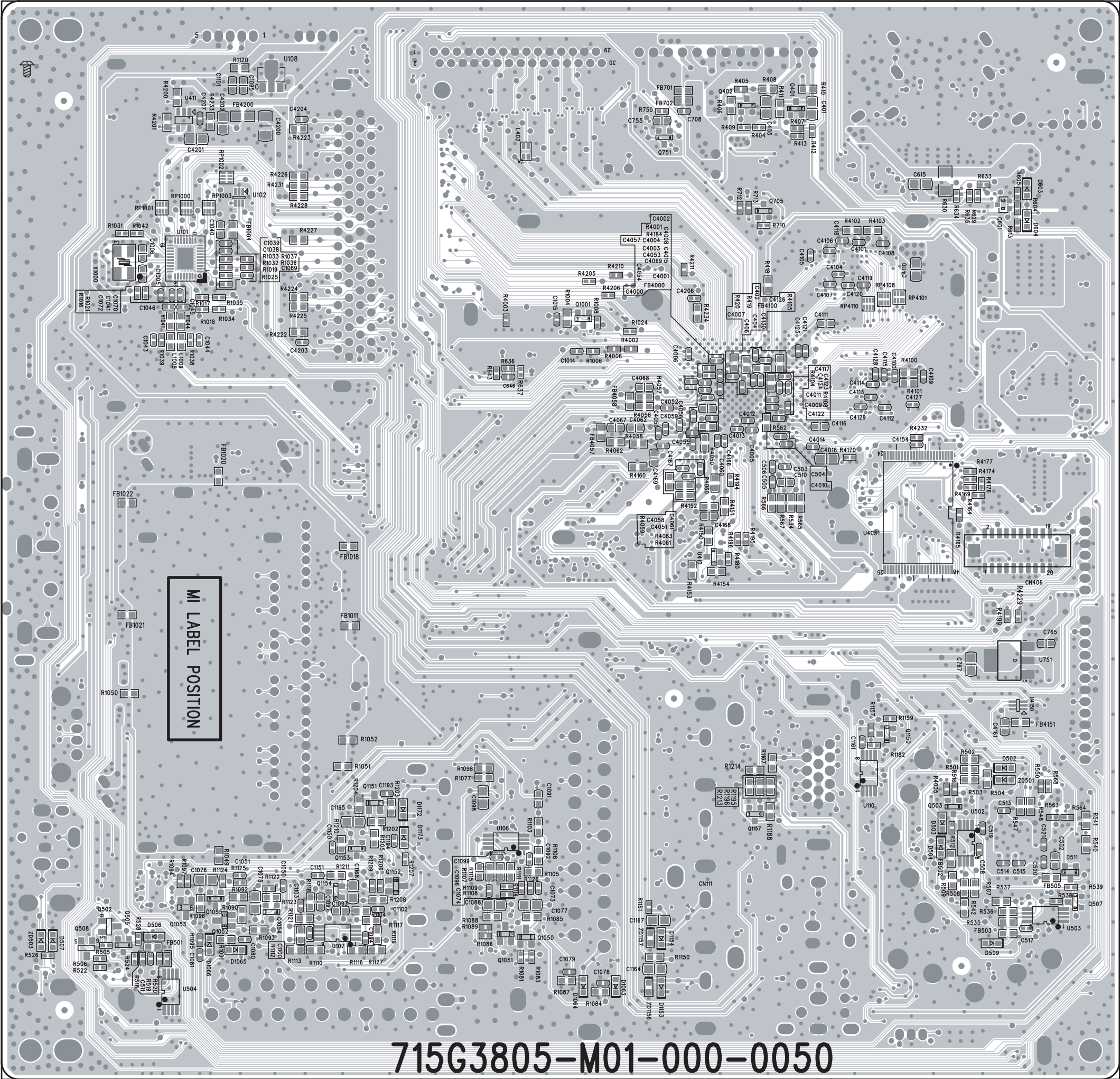
CHAPTER 7. PRINTED WIRING BOARD

[1] MAIN UNIT PRINTED WIRING BOARD(for 19", 22" and 26")
MAIN UNIT(Side-A)

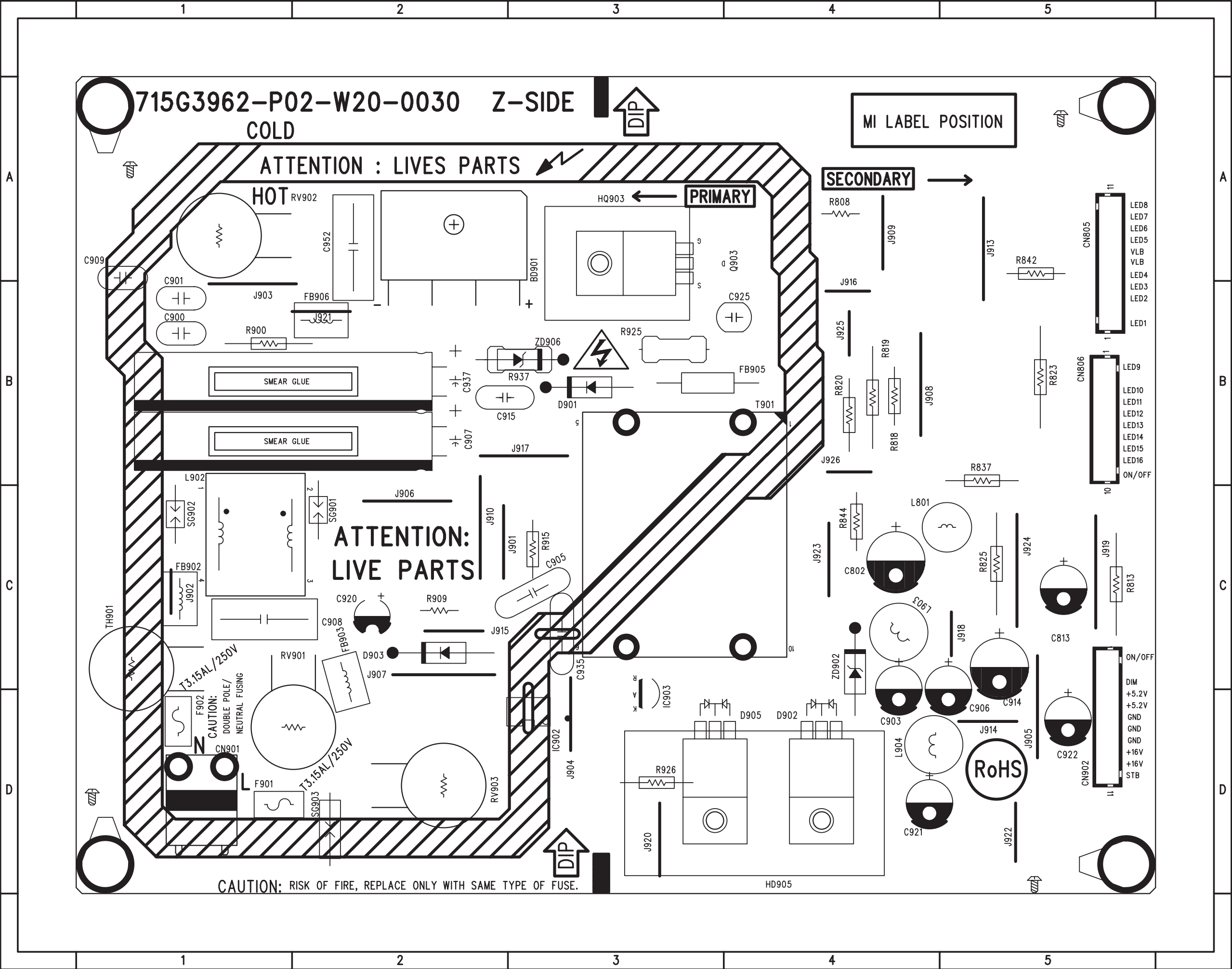






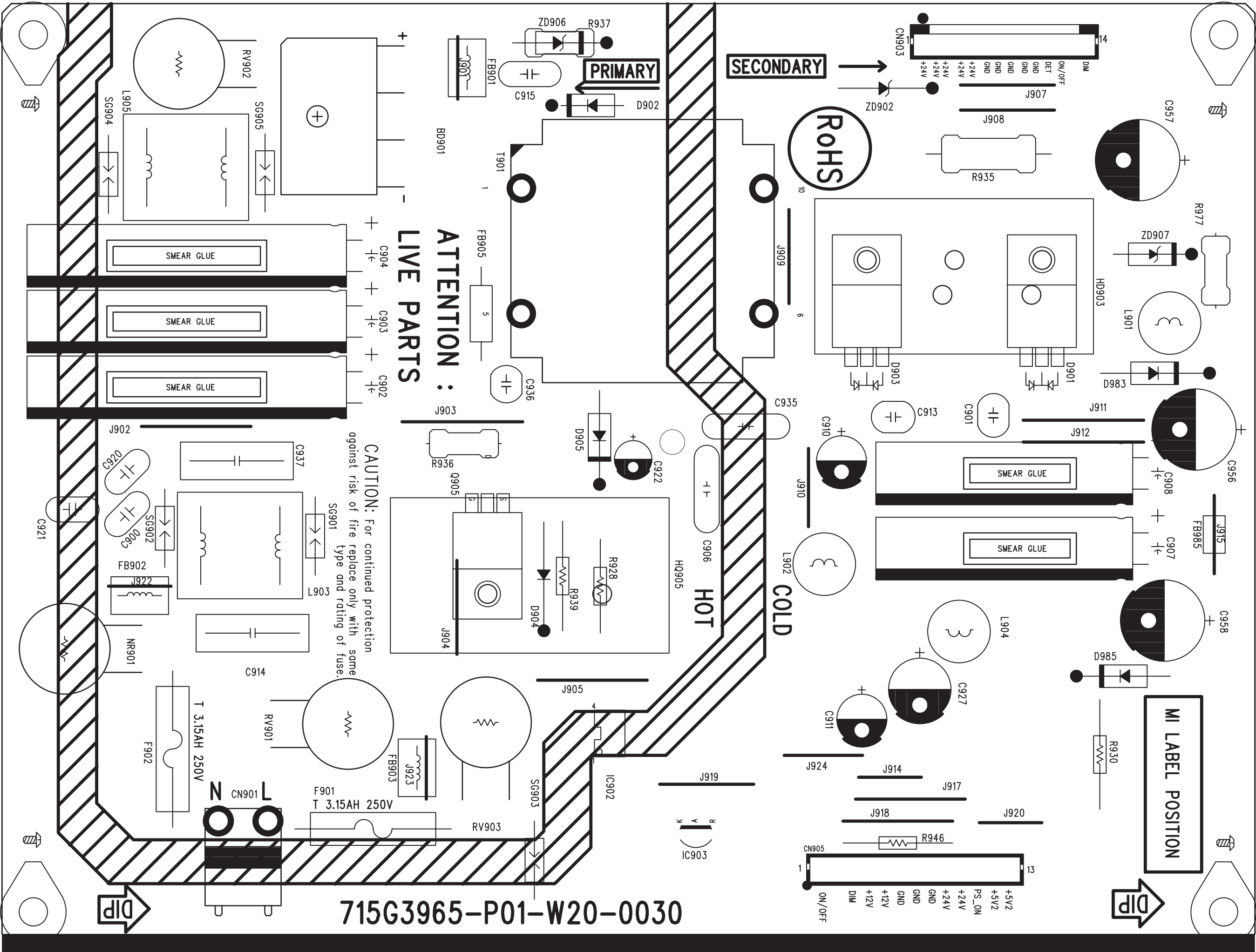


[2] POWER UNIT PRINTED WIRING BOARD(for 19" and 22" panel)
POWER UNIT(Side-A)

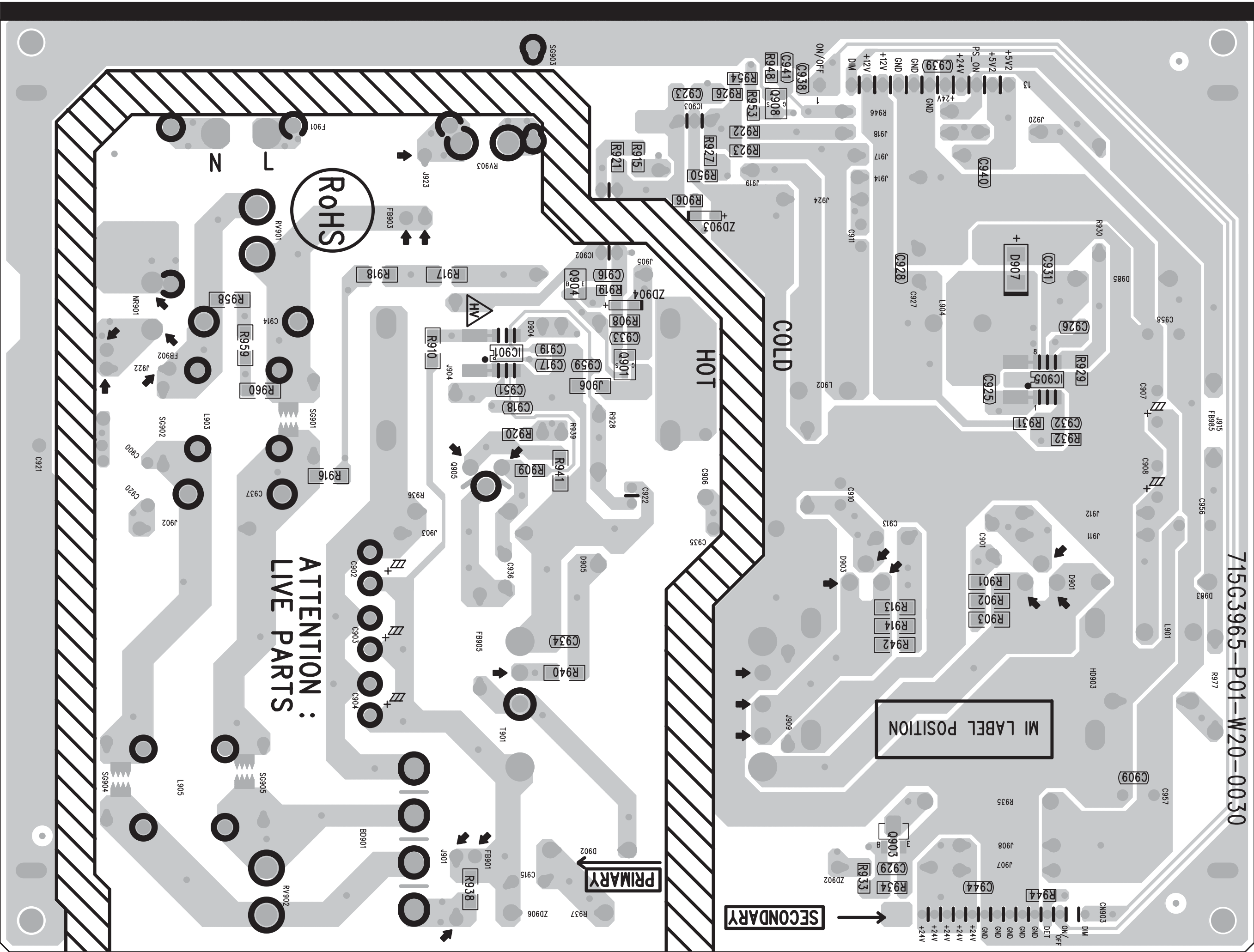




POWER UNIT PRINTED WIRING BOARD(for 26")
POWER UNIT(Side-A)

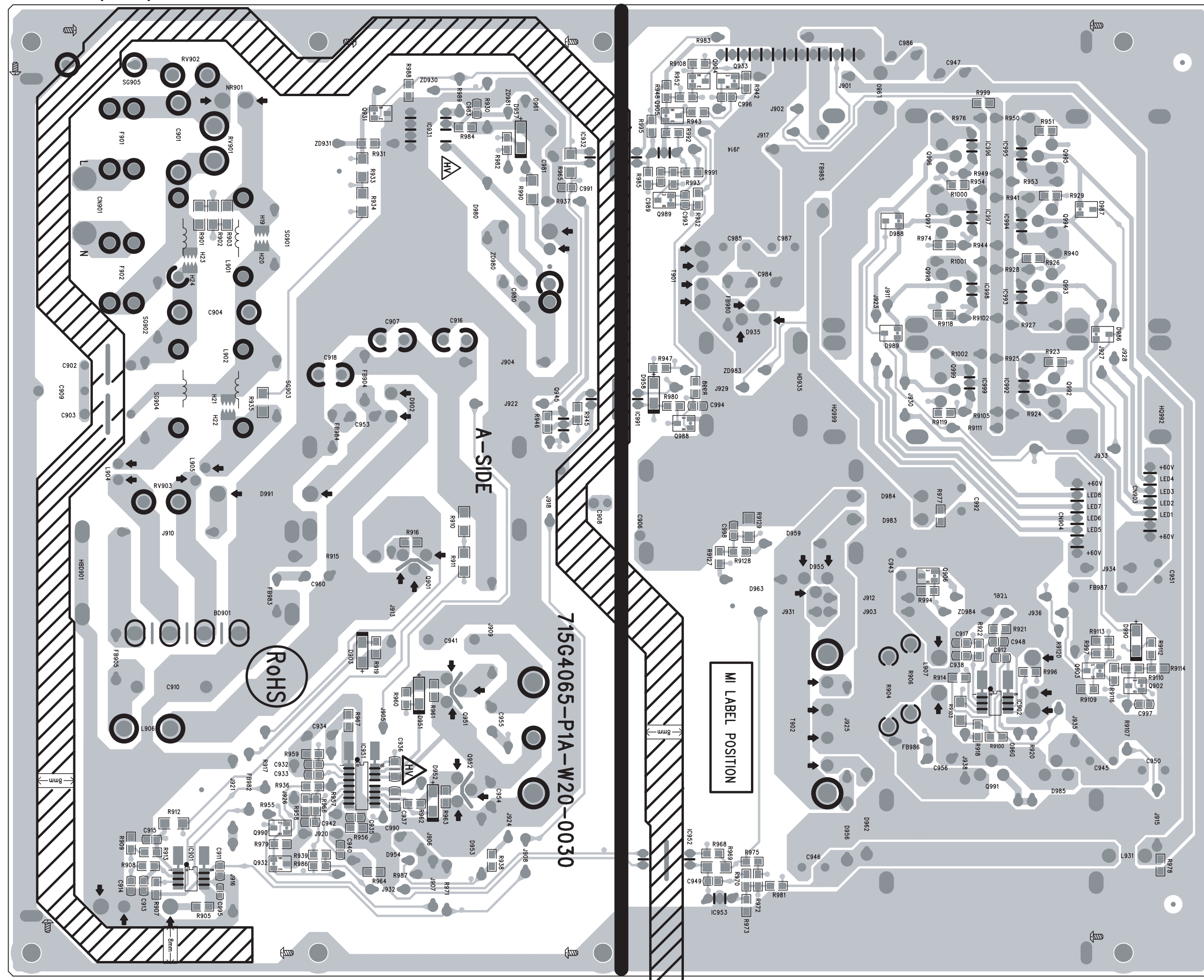


POWER UNIT(Side-B)

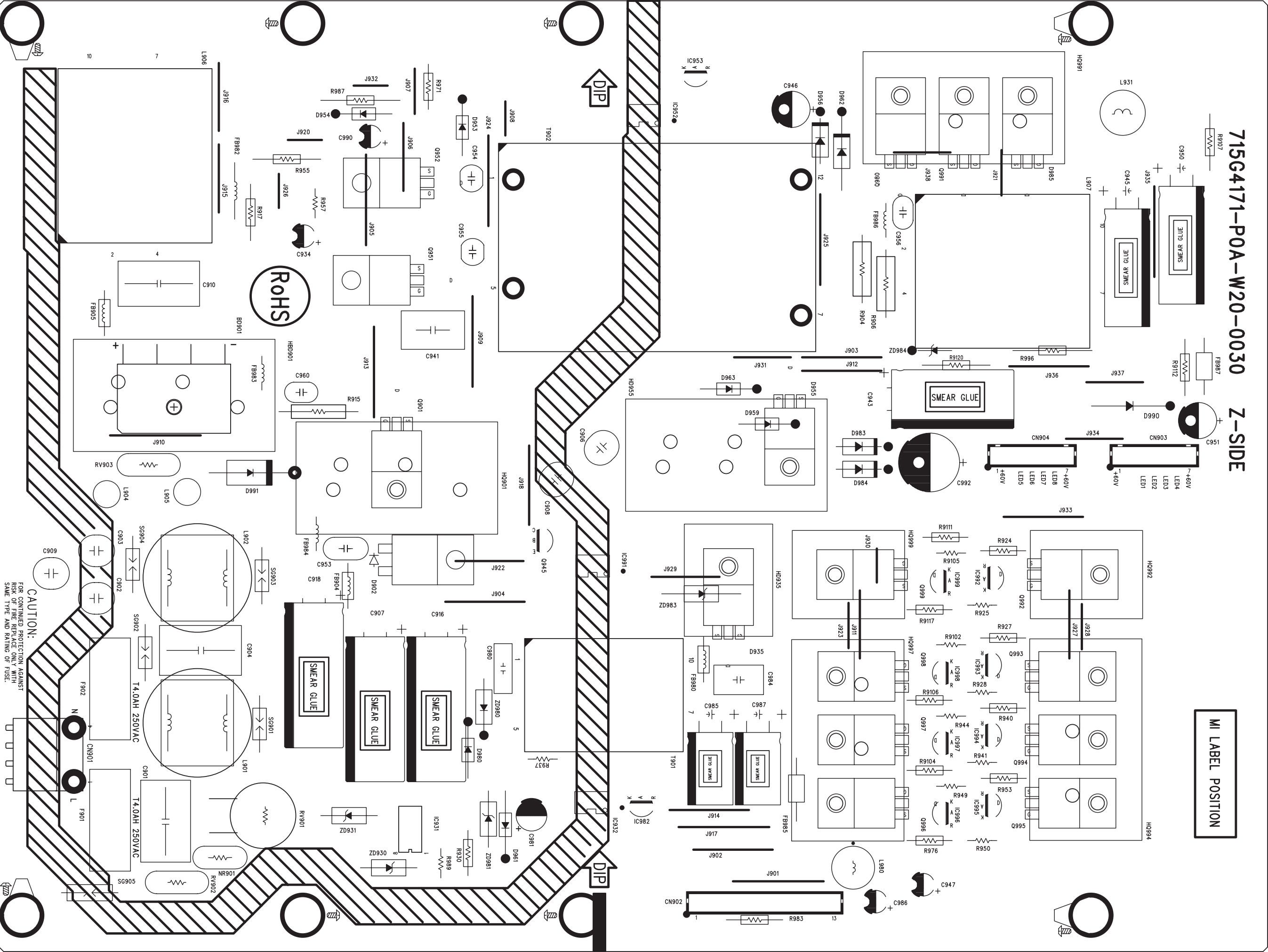


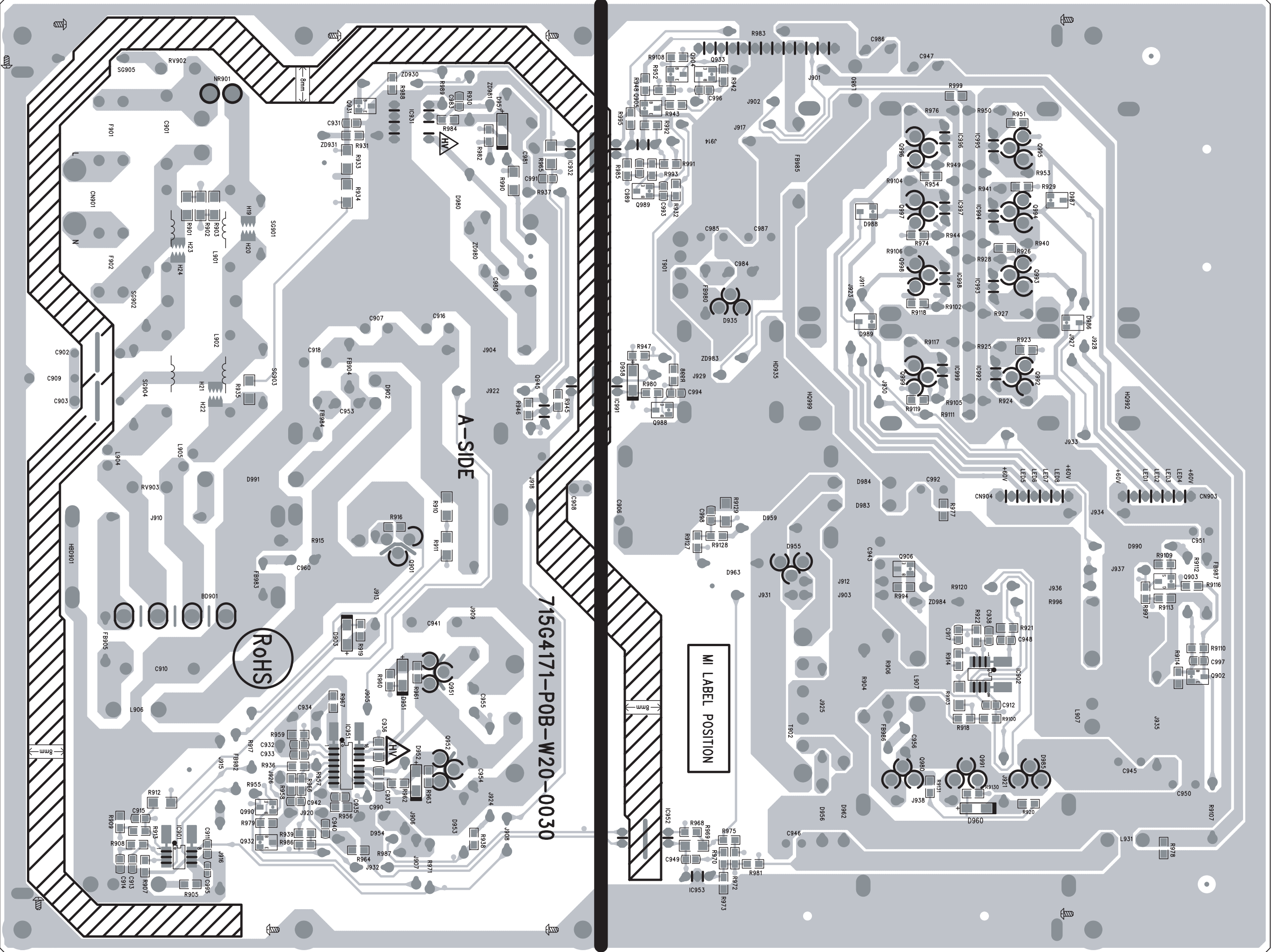
715G3965-P01-W20-0030



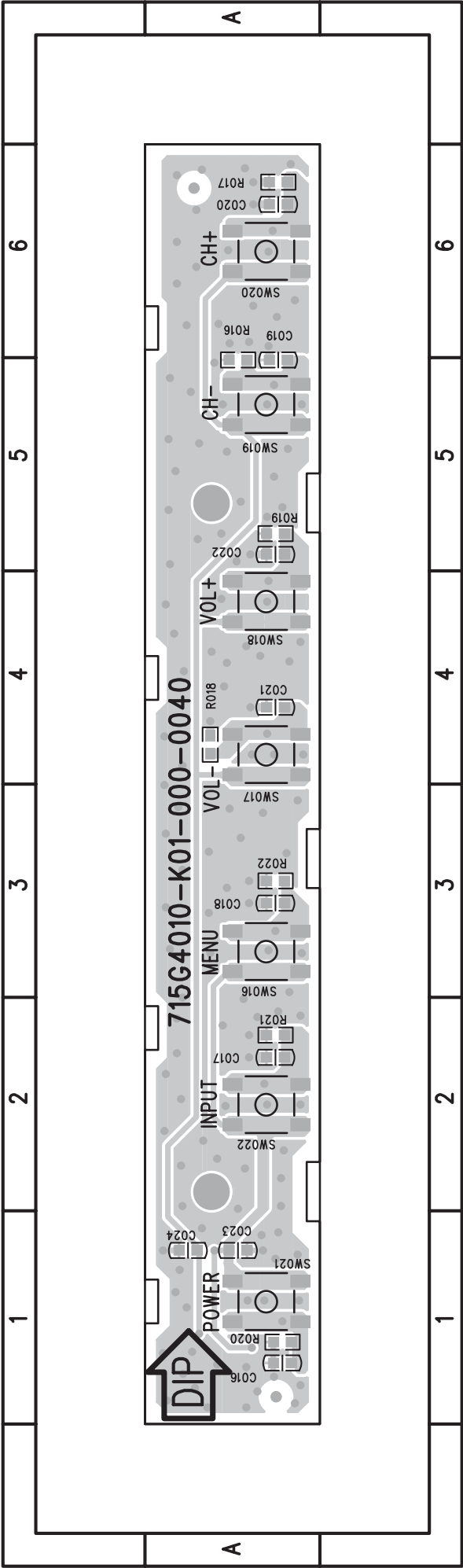


POWER UNIT PRINTED WIRING BOARD(for 42")
POWER UNIT(Side-A)

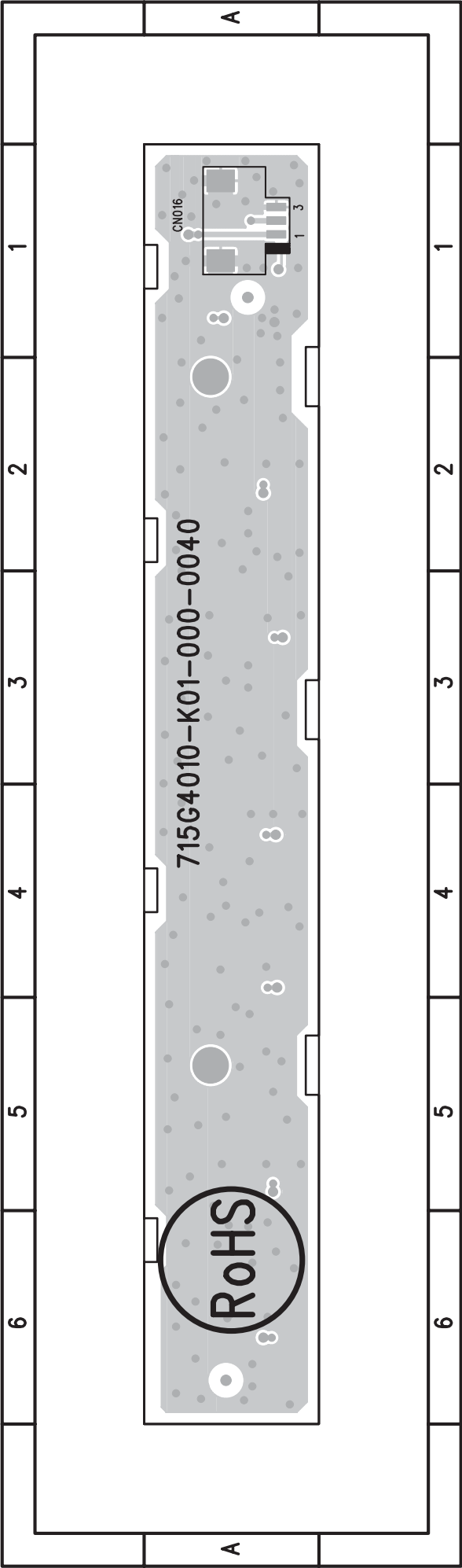




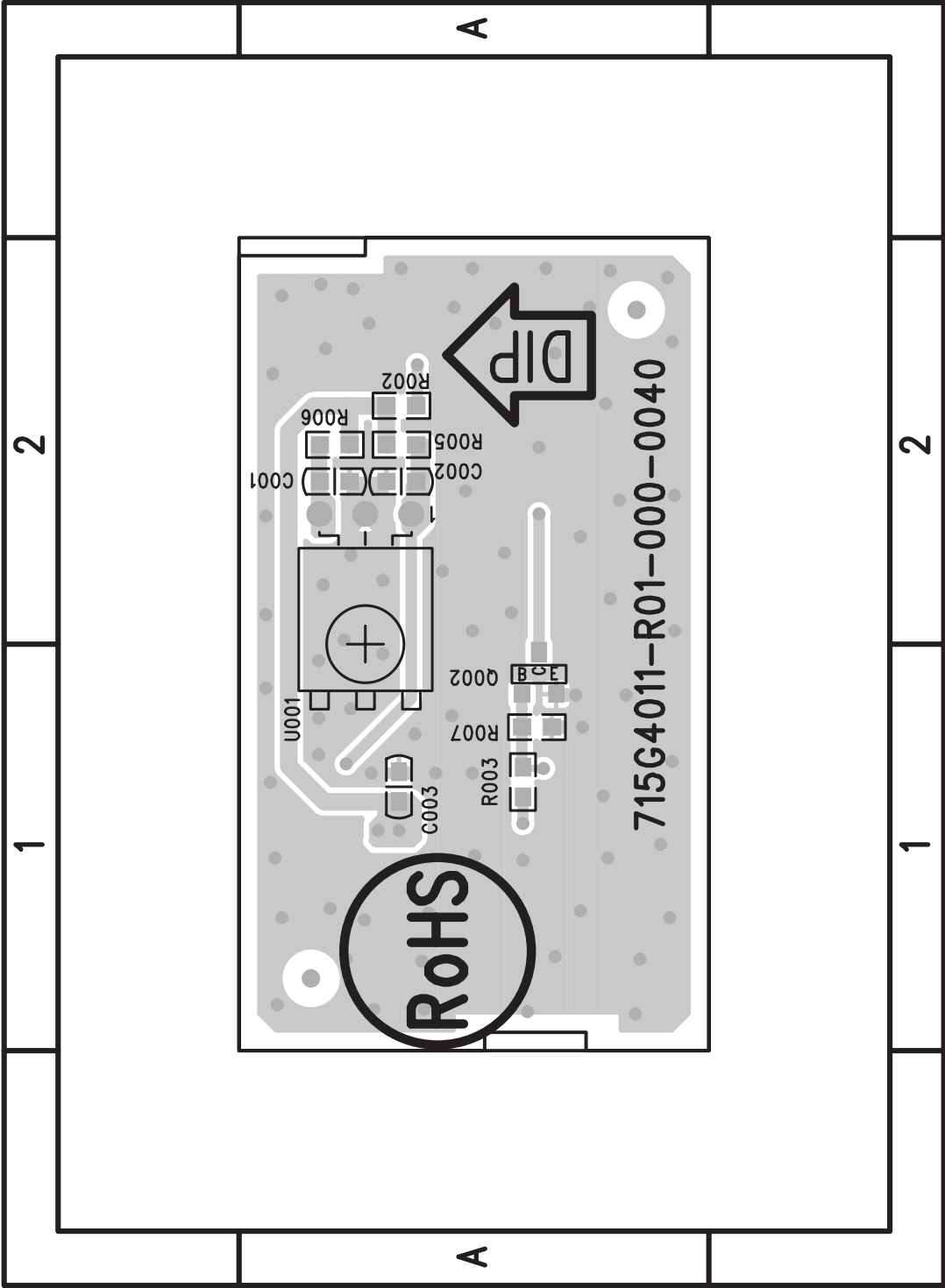
[3] KEY UNIT PRINTED WIRING BOARD
KEY UNIT (Side-A)



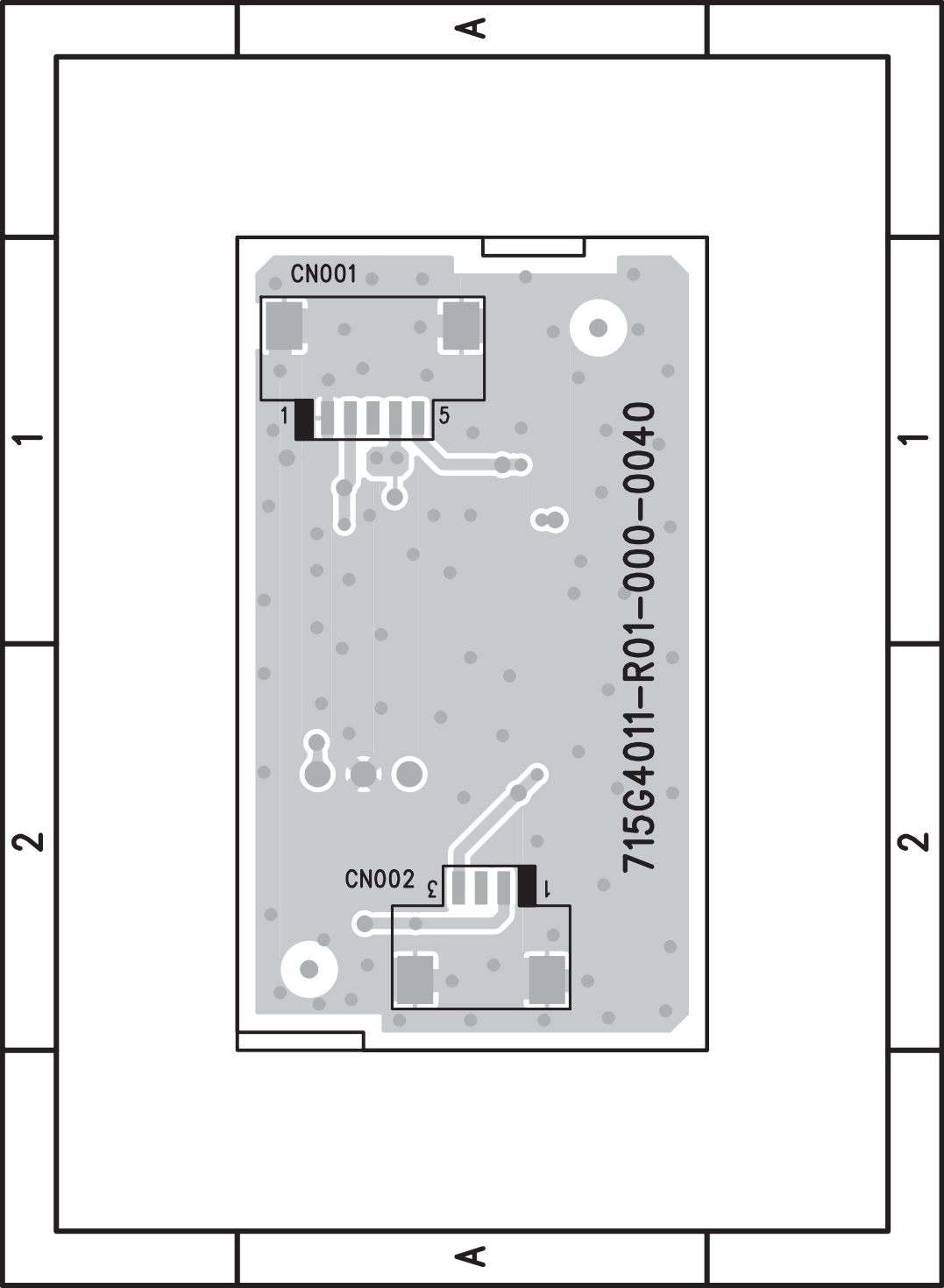
KEY UNIT (Side-B)



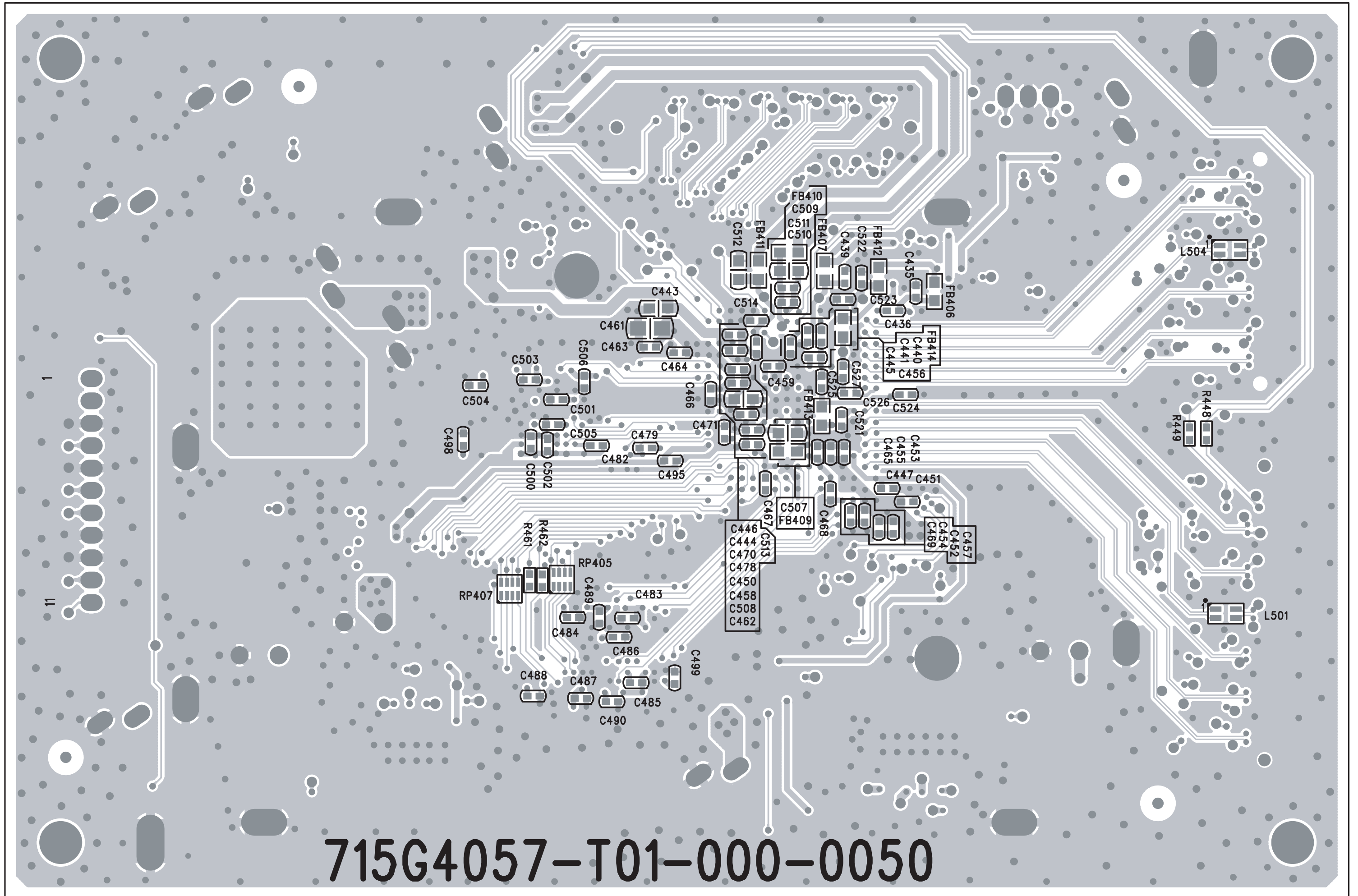
[4] IR UNIT PRINTED WIRING BOARD
IR UNIT (Side-A)

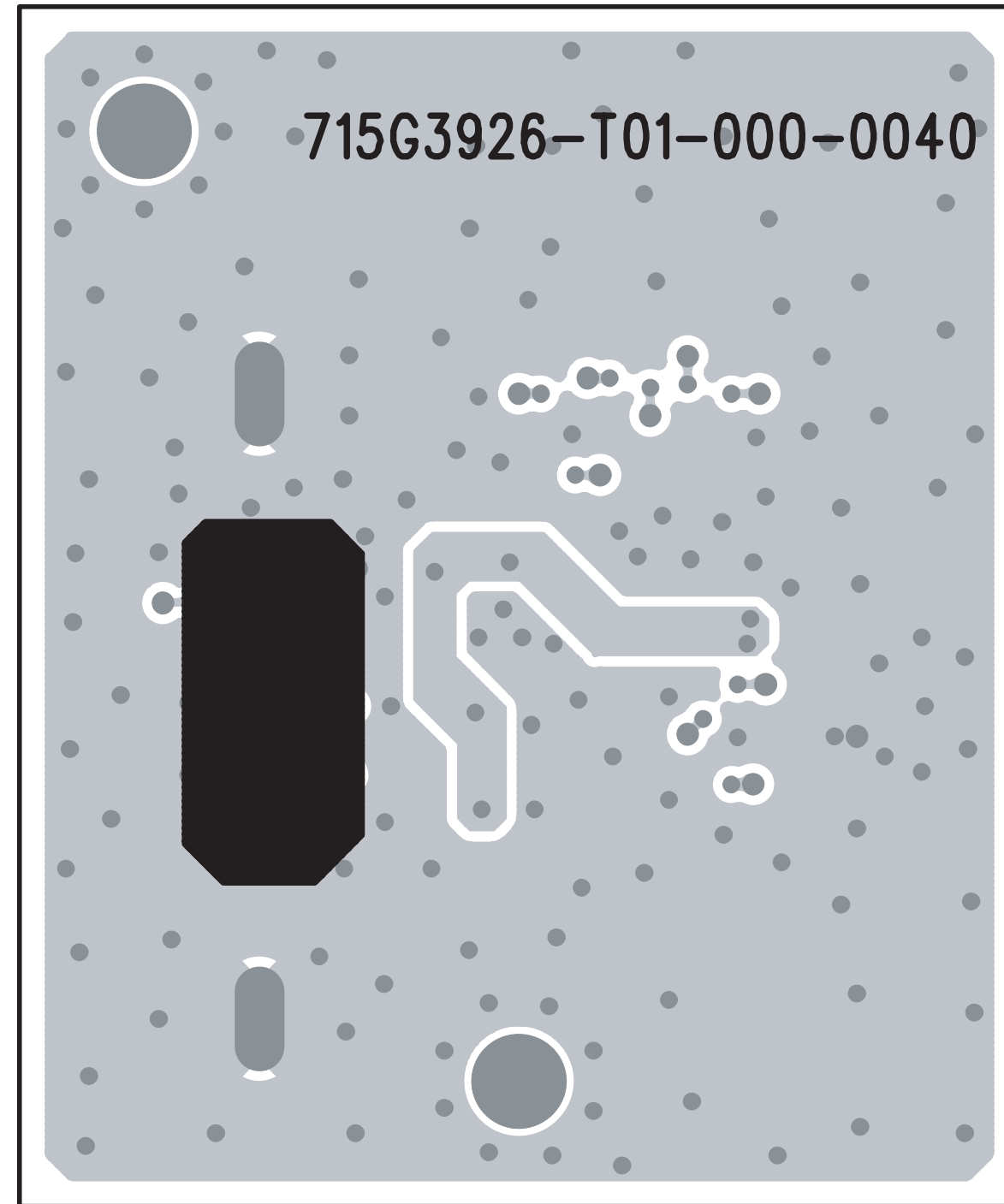


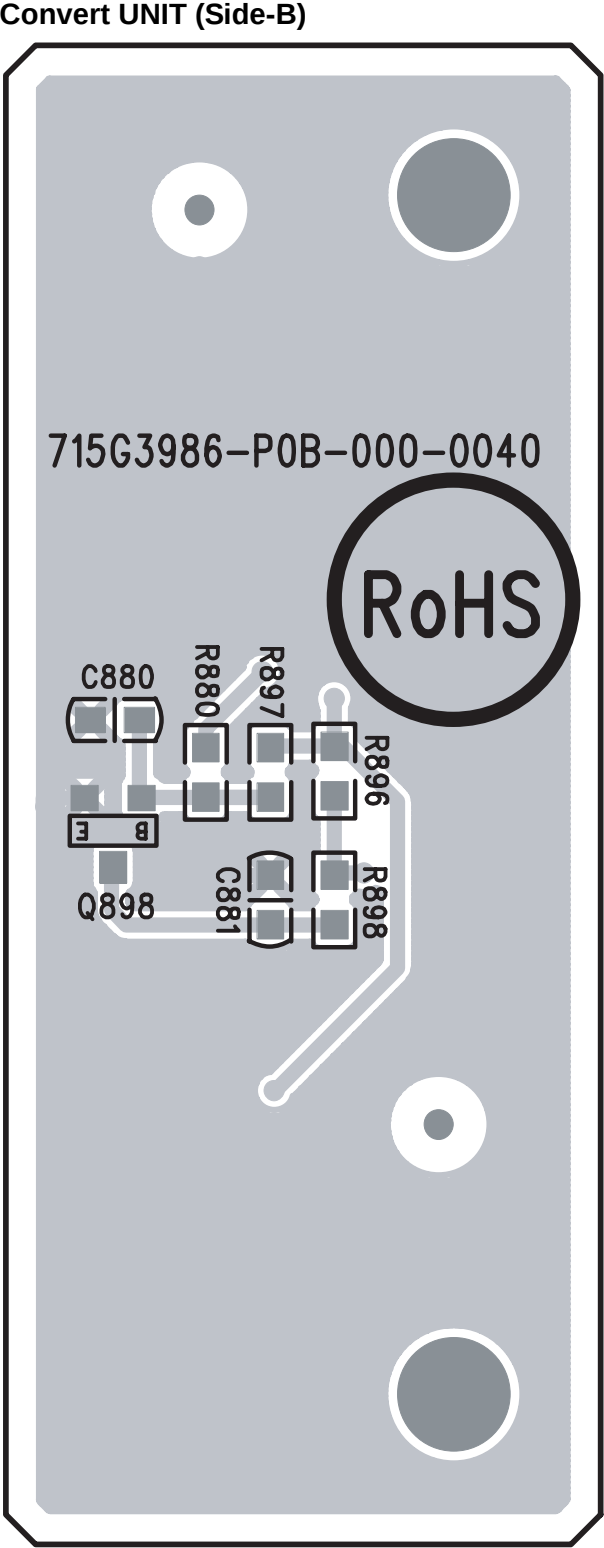
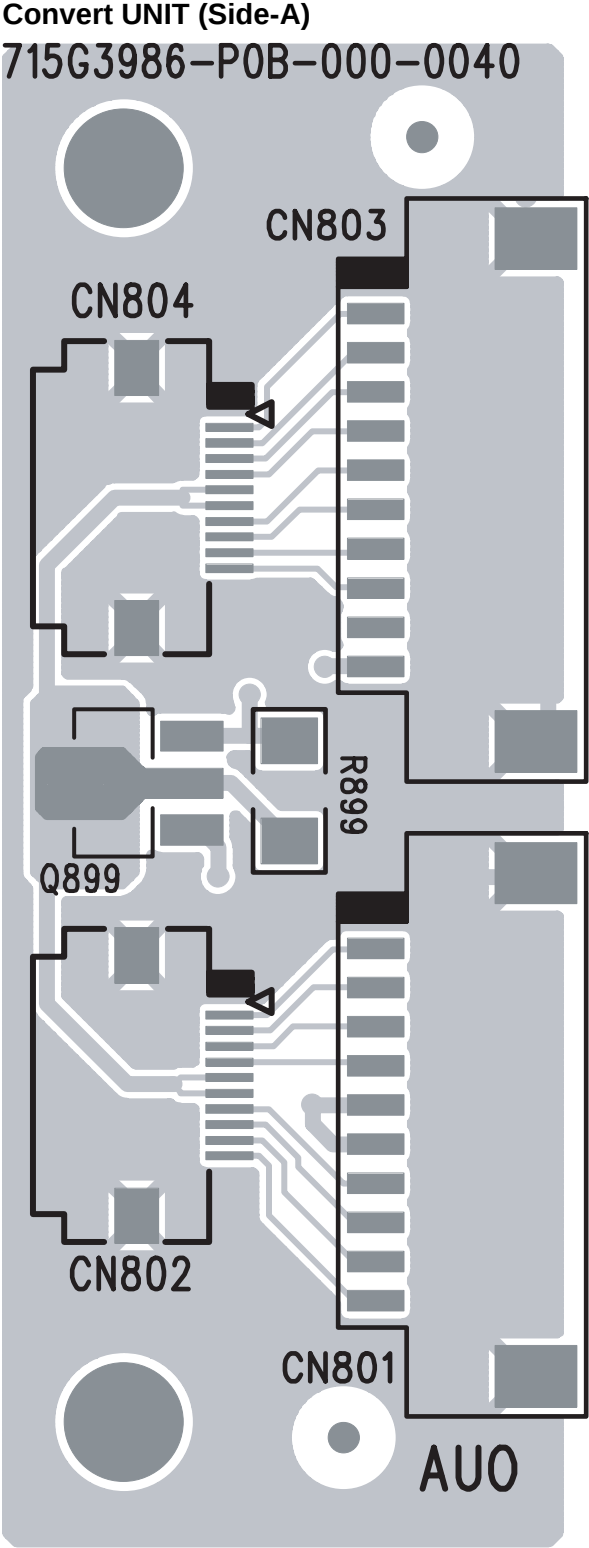
IR UNIT (Side-B)



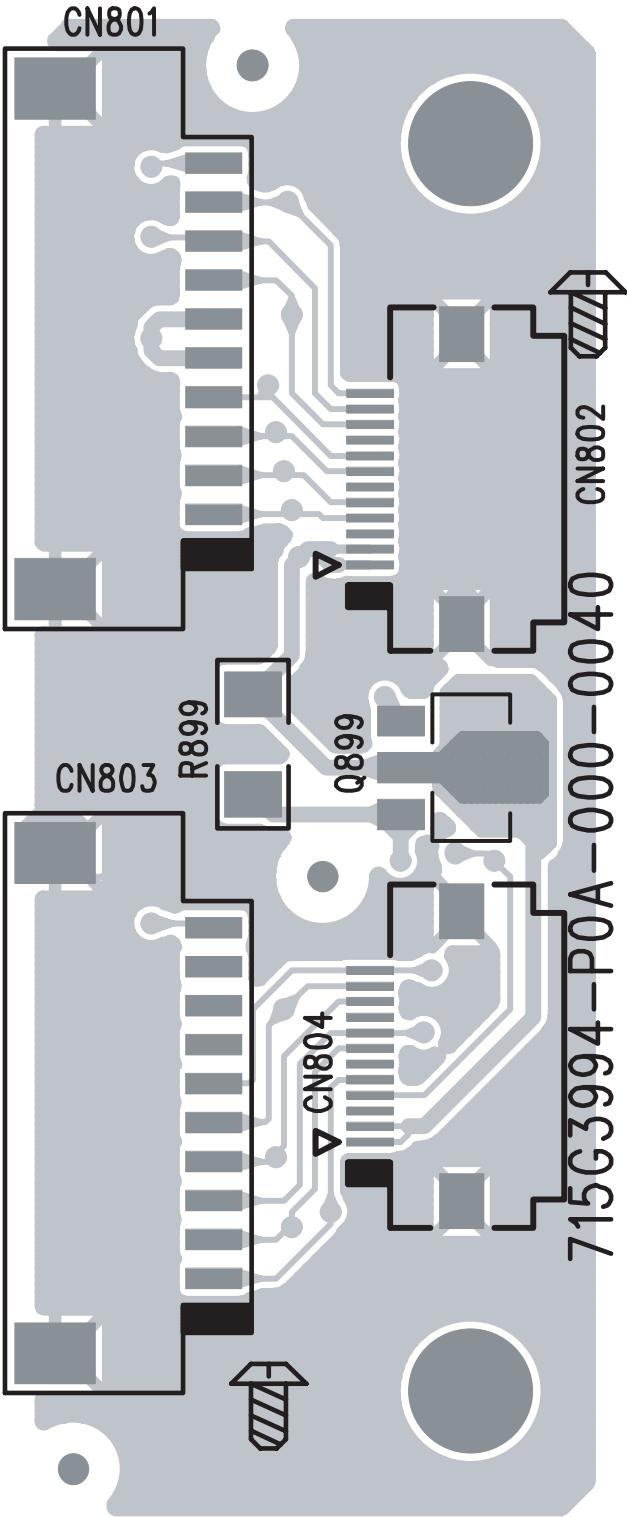




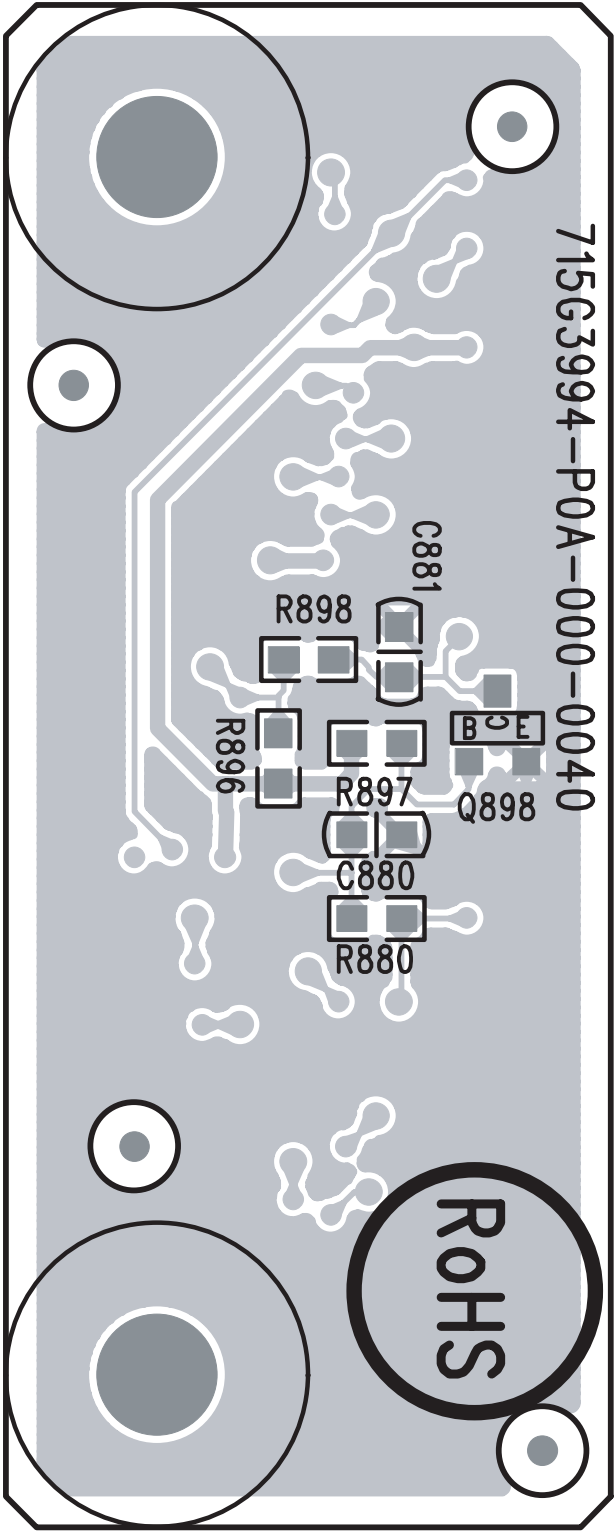




Convert UNIT PRINTED WIRING BOARD (for 19" and 22" CMO panel)
Convert UNIT (Side-A)



Convert UNIT (Side-B)

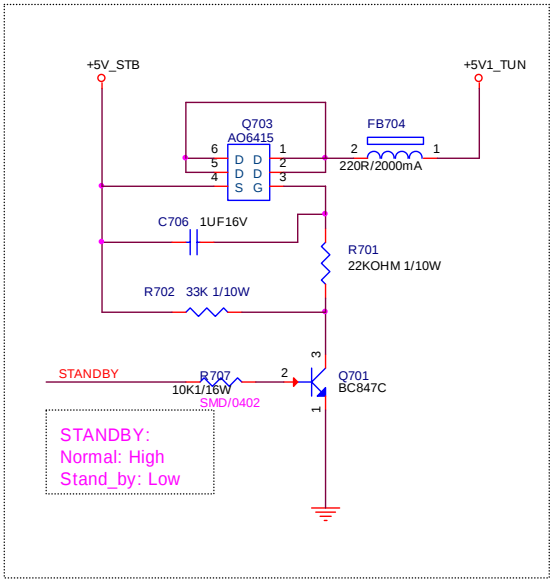
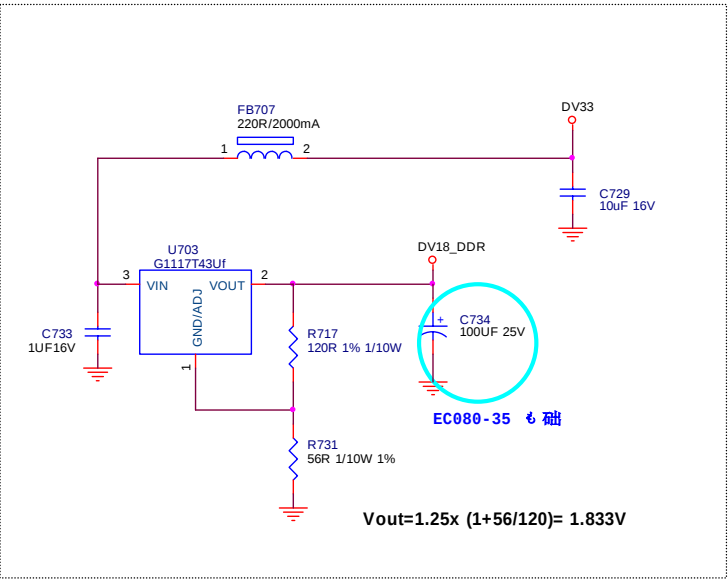
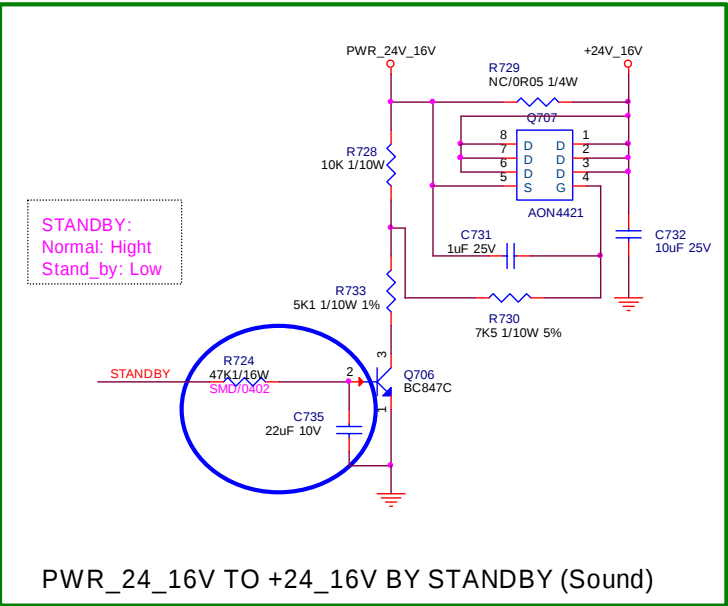
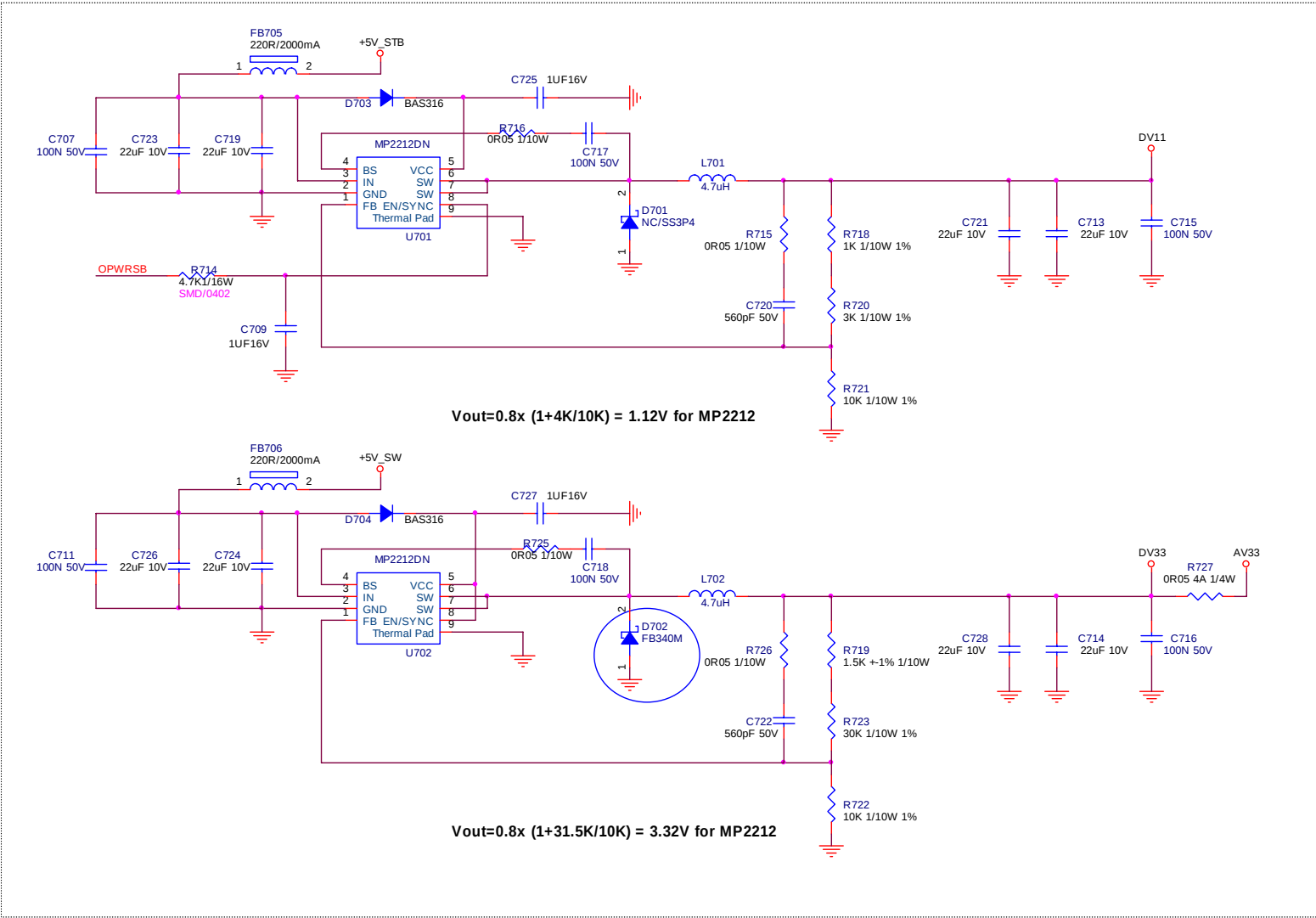
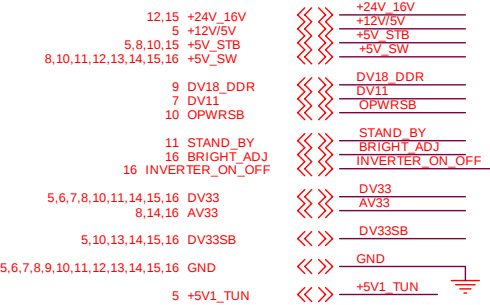
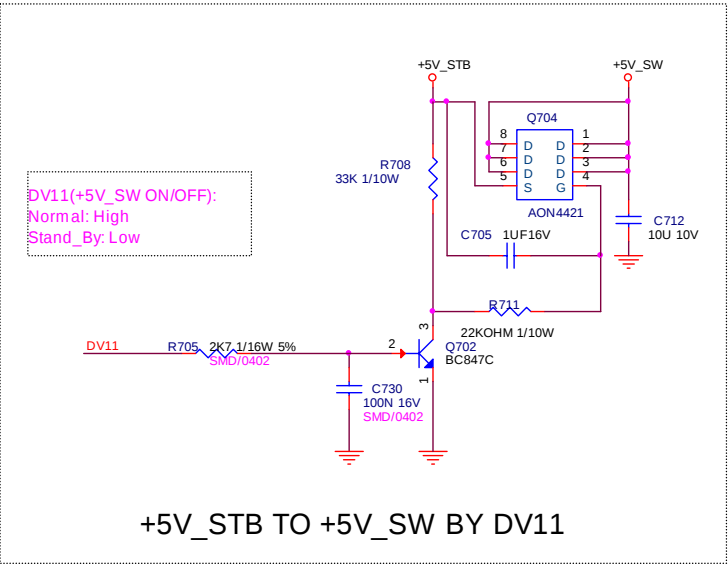
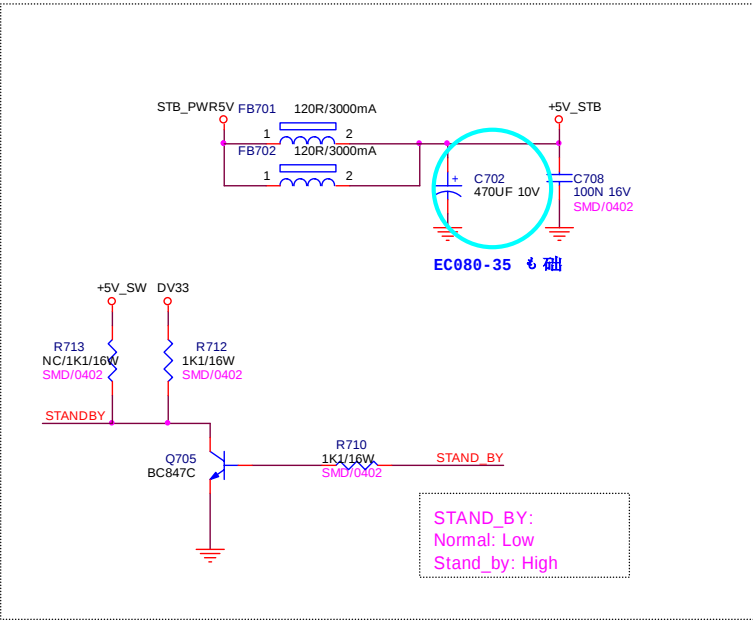
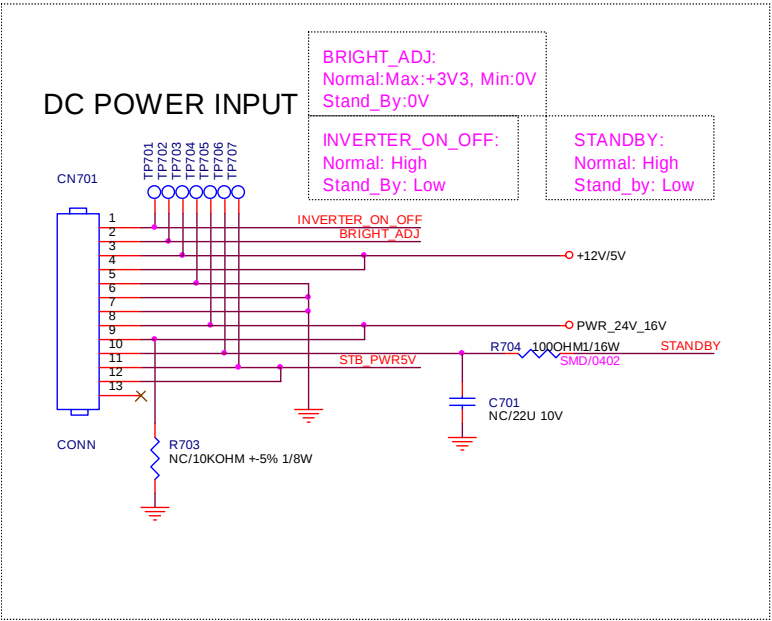


CHAPTER 8. SCHEMATIC DIAGRAM

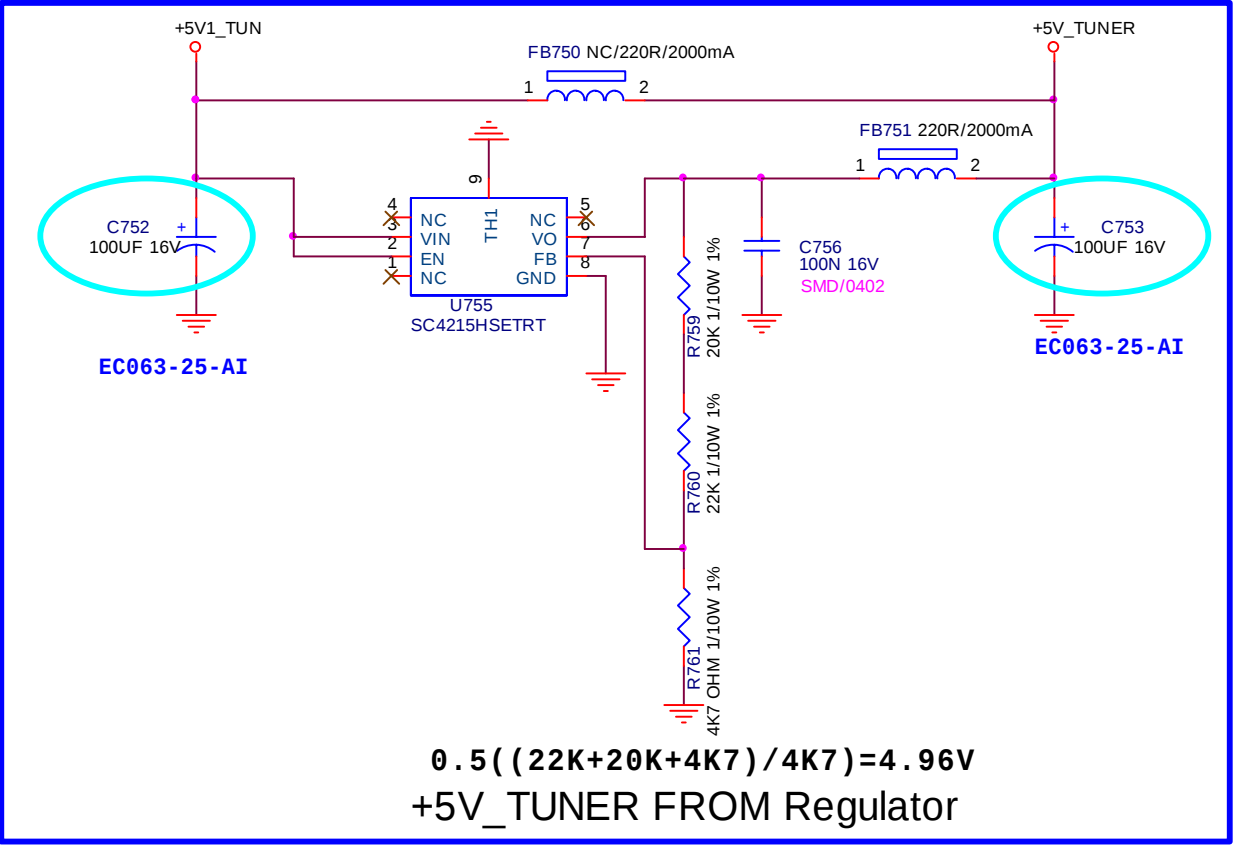
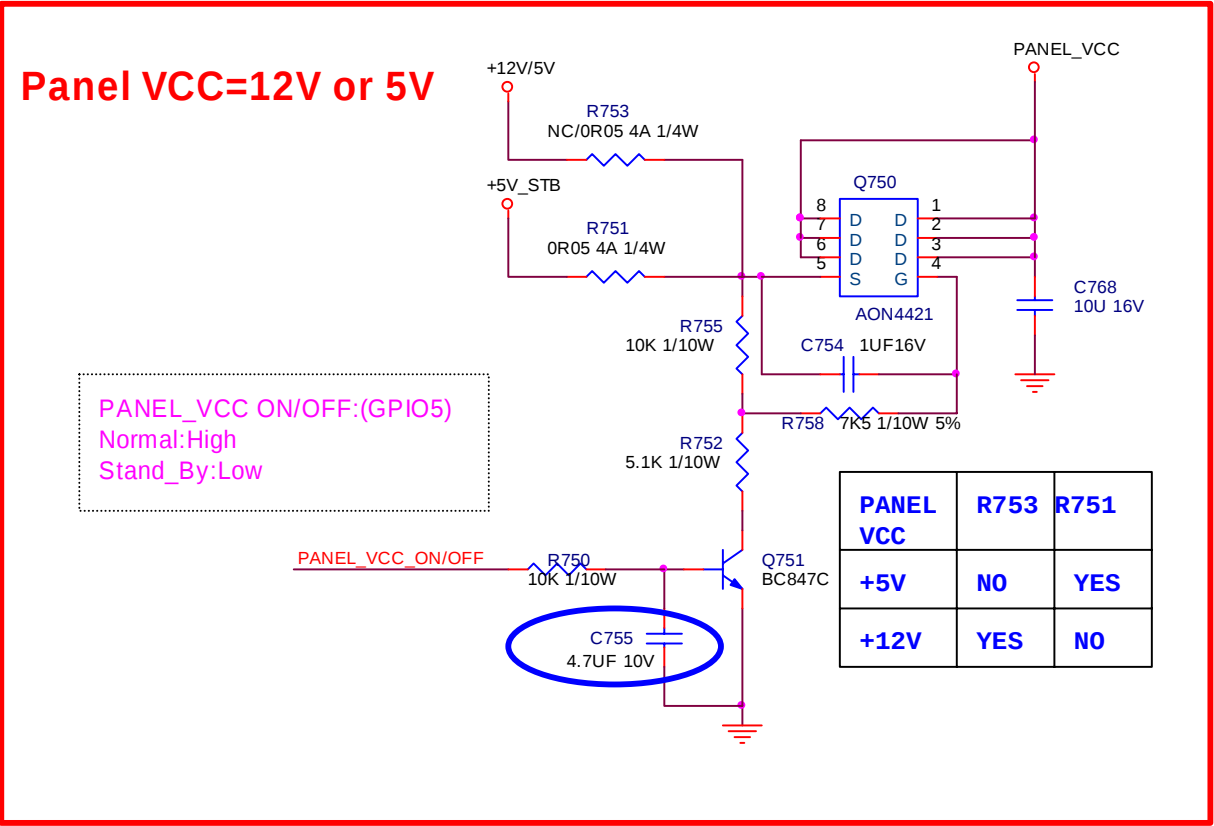
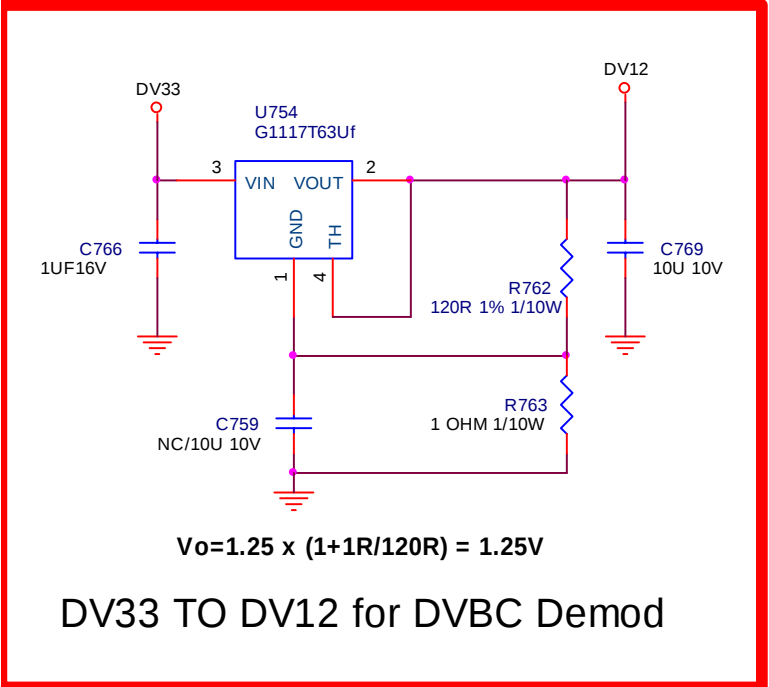
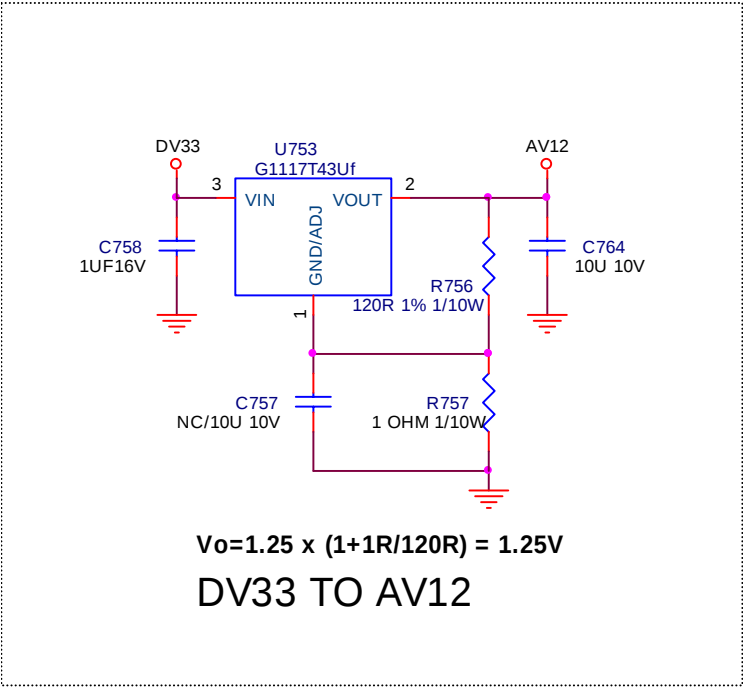
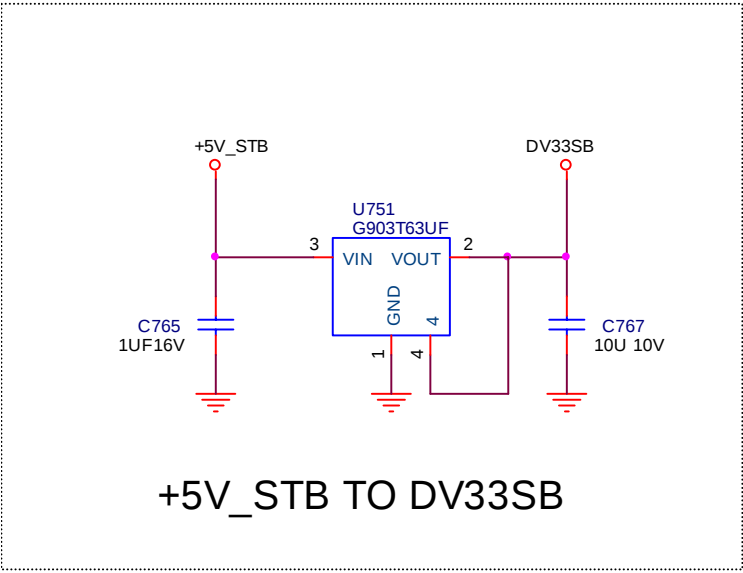
[1] MAIN SCHEMATIC DIAGRAM (for 19", 22" and 26")

01. POWER-1

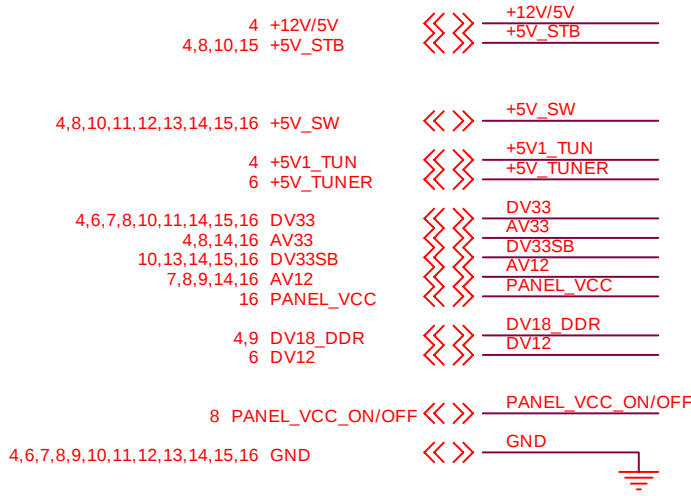
EU MT5363 - 4 LAYERS for small size



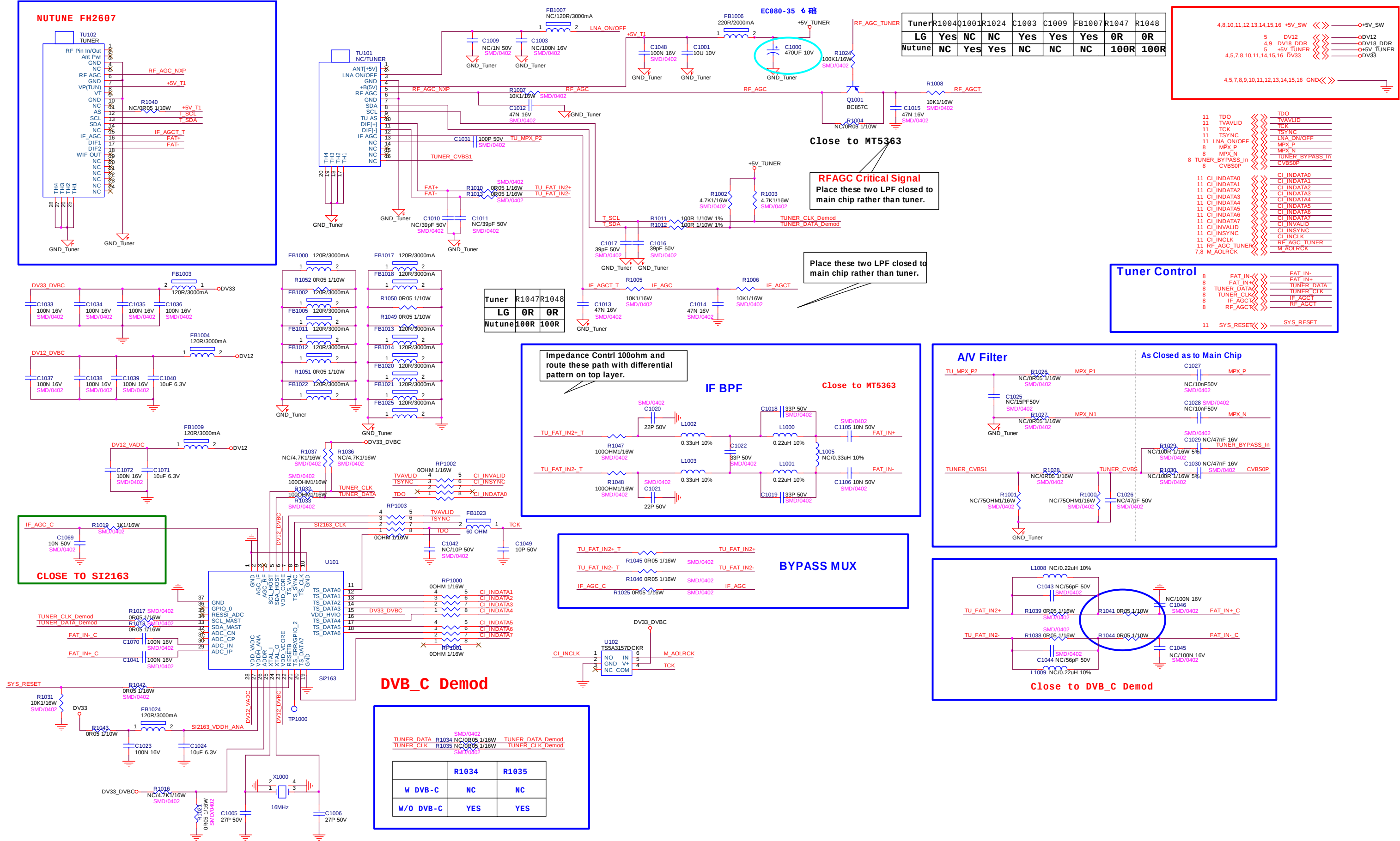
02. POWER-2

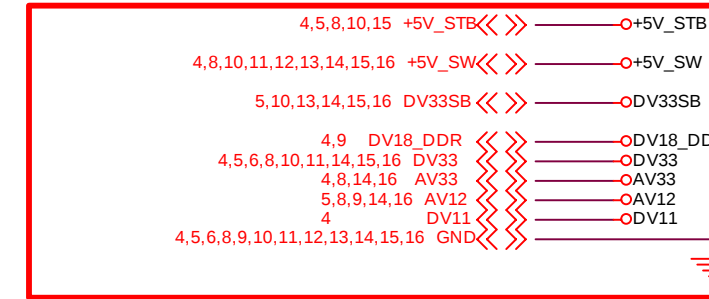


LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

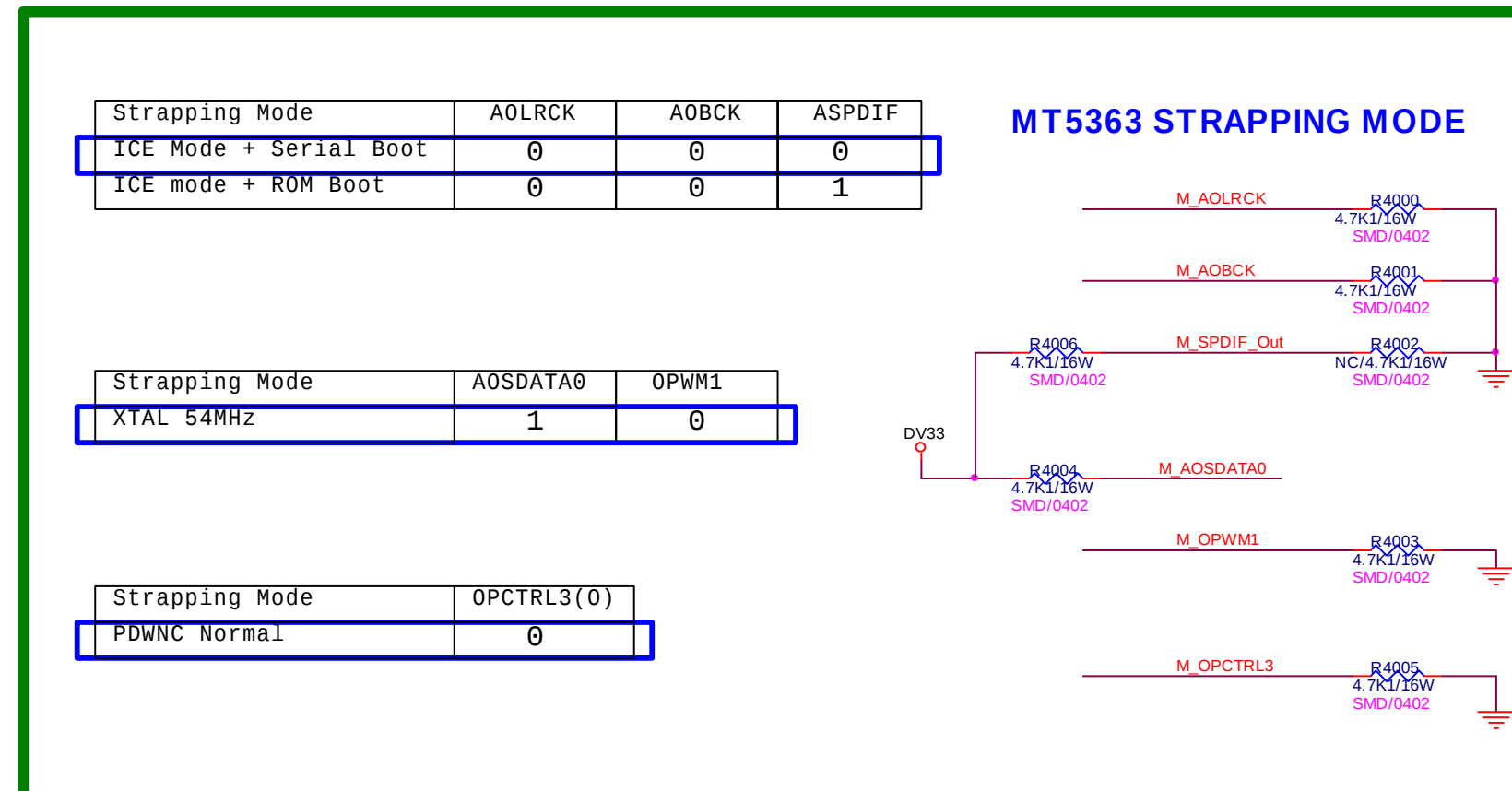
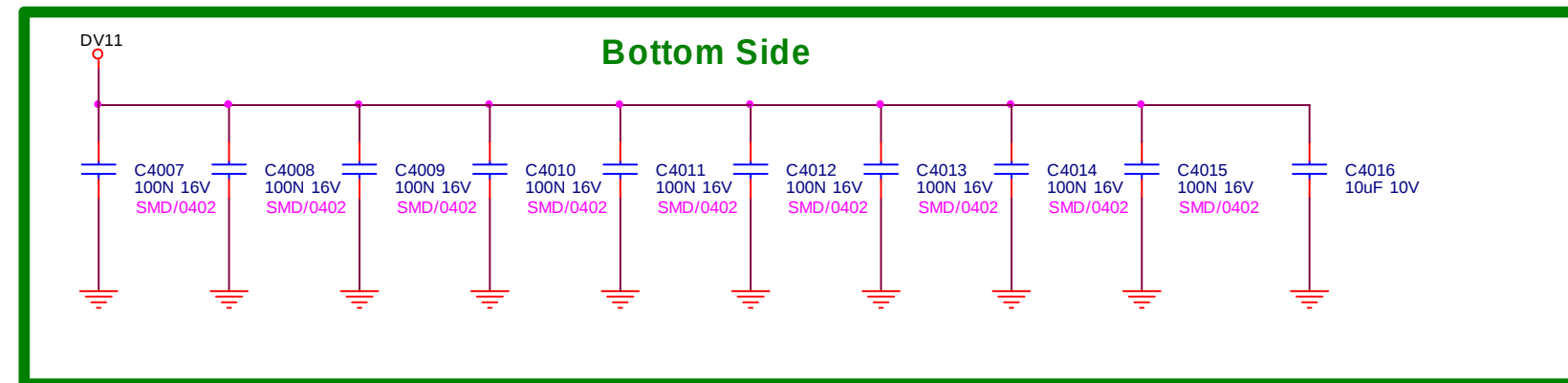


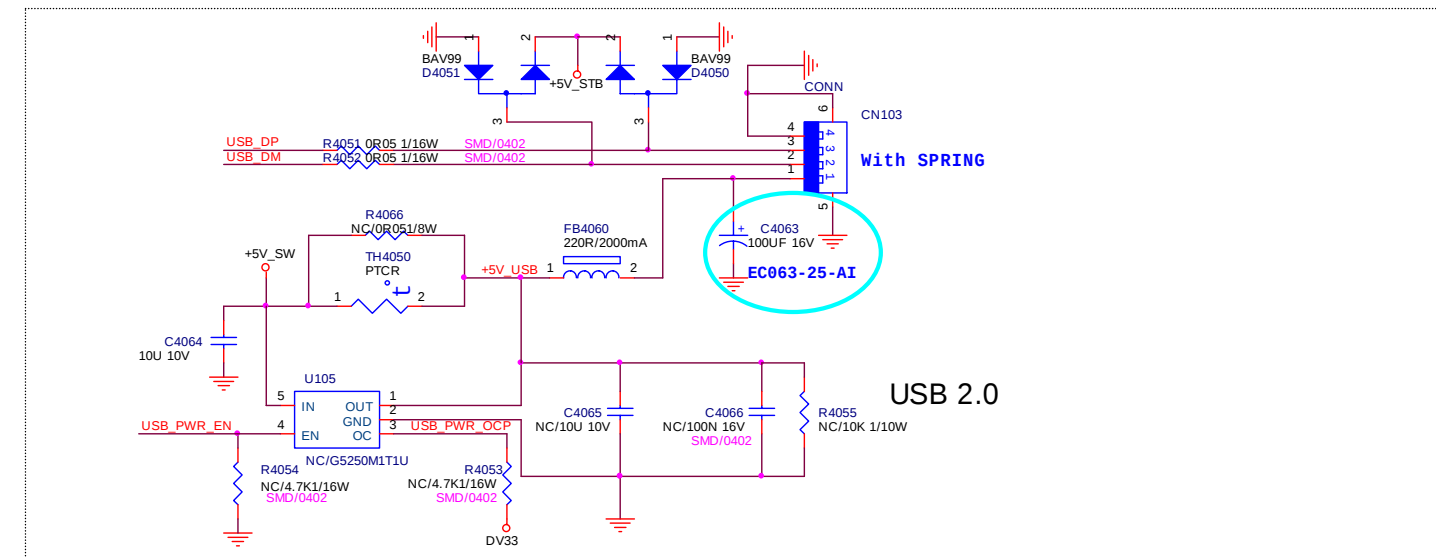
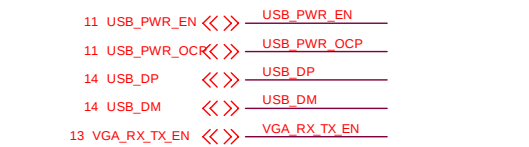
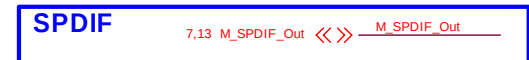
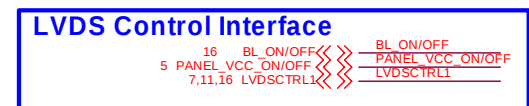
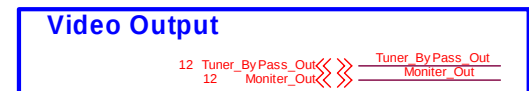
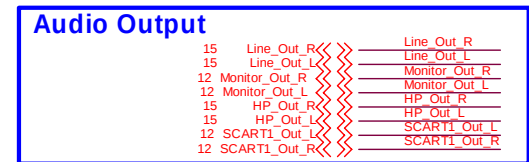
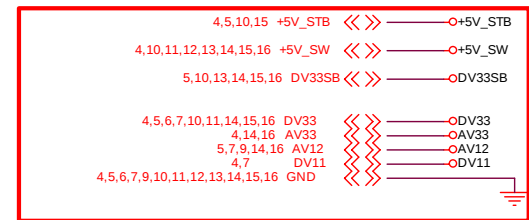
03. TUNER





6,8	M_AOLRCK	↔	M_AOLRCK
8	M_AOBCK	↔	M_AOBCK
8	M_AOSDATA0	↔	M_AOSDATA0
8,13	M_SPDIF_Out	↔	M_SPDIF_Out
11,16	M_OPWM1	↔	M_OPWM1
10,13,14	M_OPCTRL3	↔	M_OPCTRL3





[illegible]

The diagram illustrates the decoupling capacitor layout for two memory modules, DDR1 and DDR2, on the bottom side of a PCB. Each module is represented by a horizontal line with multiple vias connecting to a common ground plane.

DDR1 Module (Top): Labeled "Bottom Side DDR#1". It features a series of decoupling capacitors: C4102 (100uF 16V) and C4104 through C4120 (all 100N 16V). The capacitors are connected to a common ground plane via vias. The vias are labeled "SMD/0402".

DDR2 Module (Bottom): Labeled "Bottom Side DDR#2". It features a series of decoupling capacitors: C4103 (100uF 16V) and C4113 through C4129 (all 100N 16V). The capacitors are connected to a common ground plane via vias. The vias are labeled "SMD/0402".

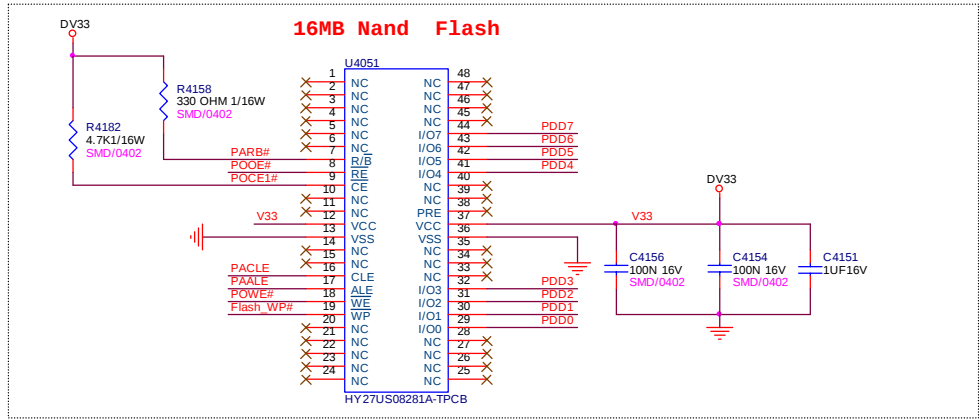
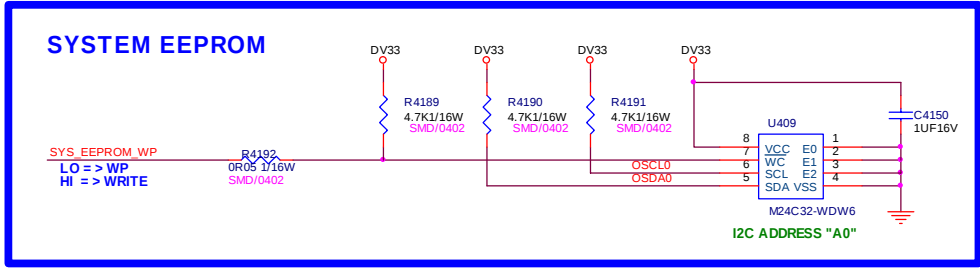
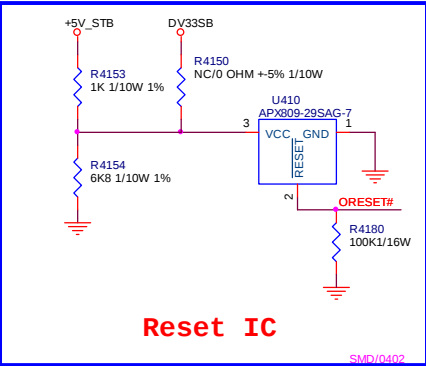
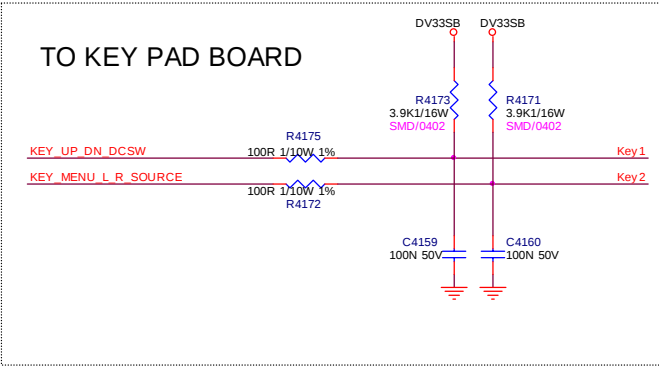
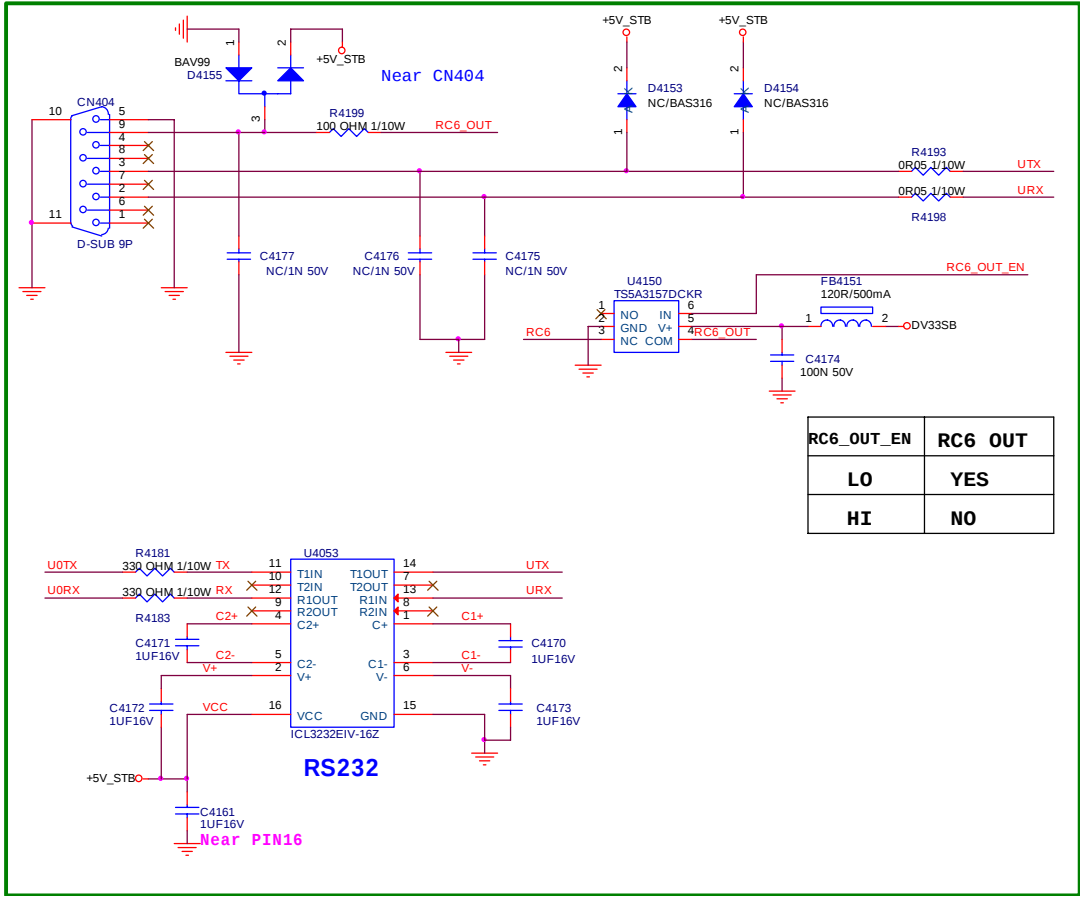
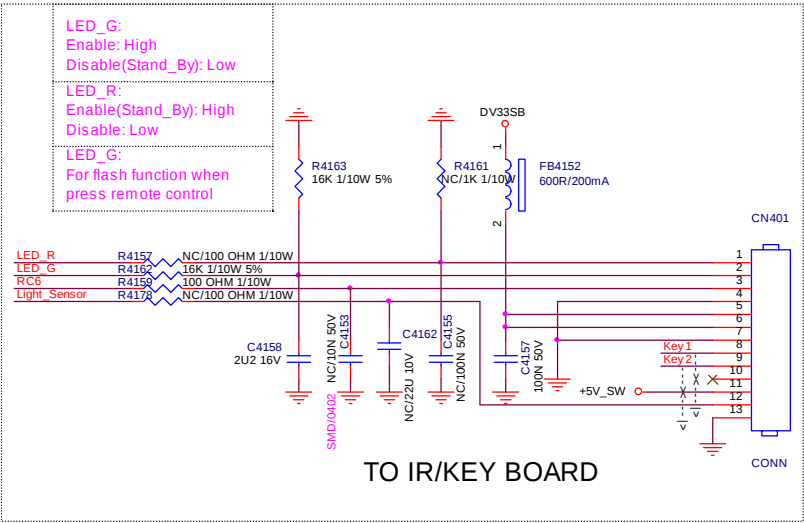
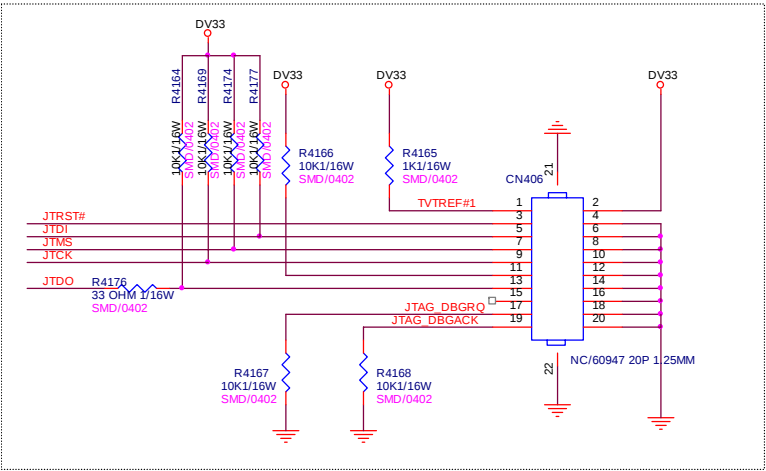
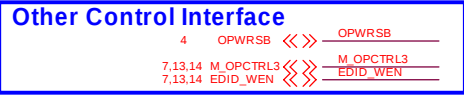
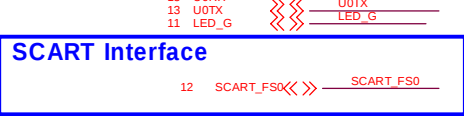
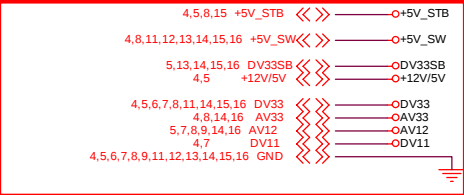
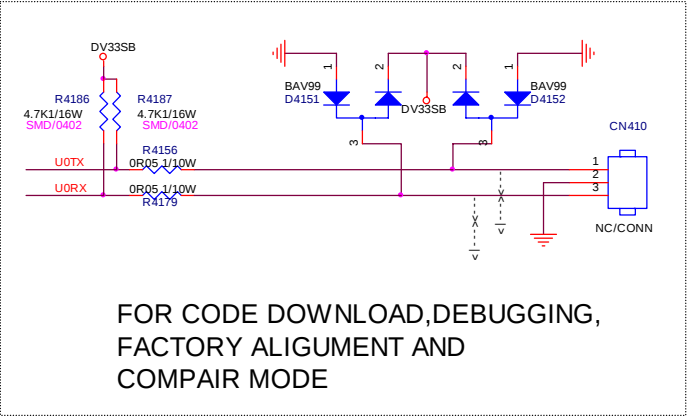
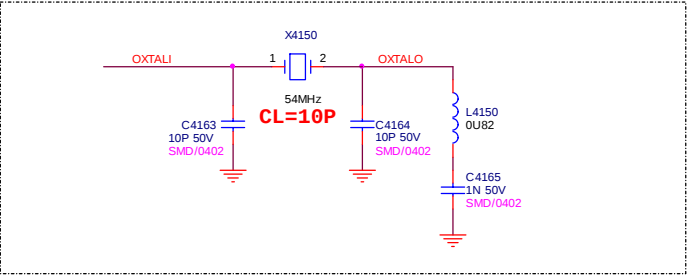
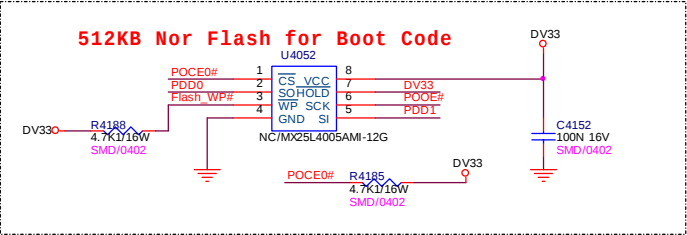
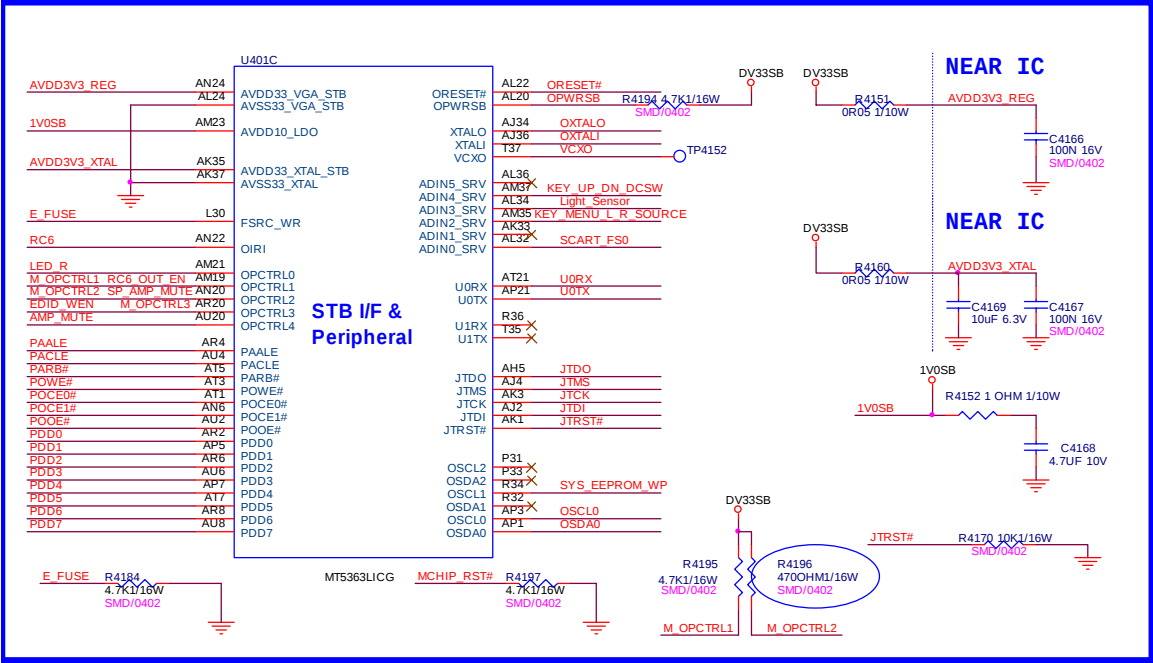
The diagram shows a power distribution network for the Main Chip Bottom Side. A DV18_DDR supply is connected to a series of capacitors. The capacitors are labeled as follows:

- C4110: 10U 10V
- C4116: 1UF16V
- C4111: 1UF16V
- C4122: 100N 16V (SMD/0402)
- C4121: 100N 16V (SMD/0402)
- C4123: 100N 16V (SMD/0402)
- C4124: 100N 16V (SMD/0402)
- C4125: 100N 16V (SMD/0402)
- C4126: 100N 16V (SMD/0402)

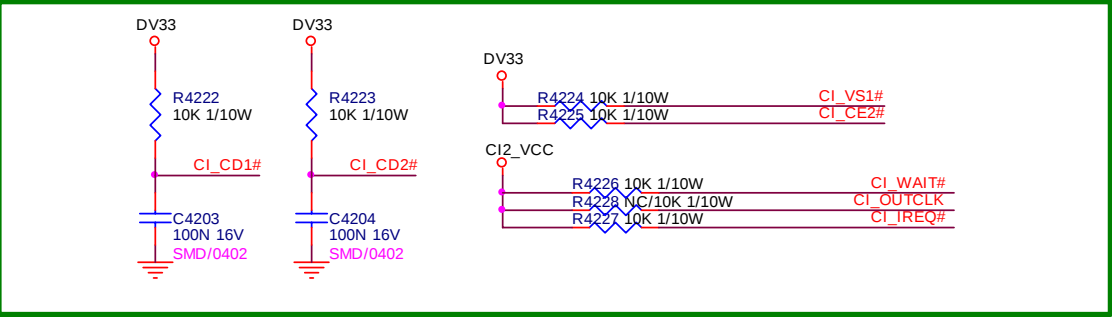
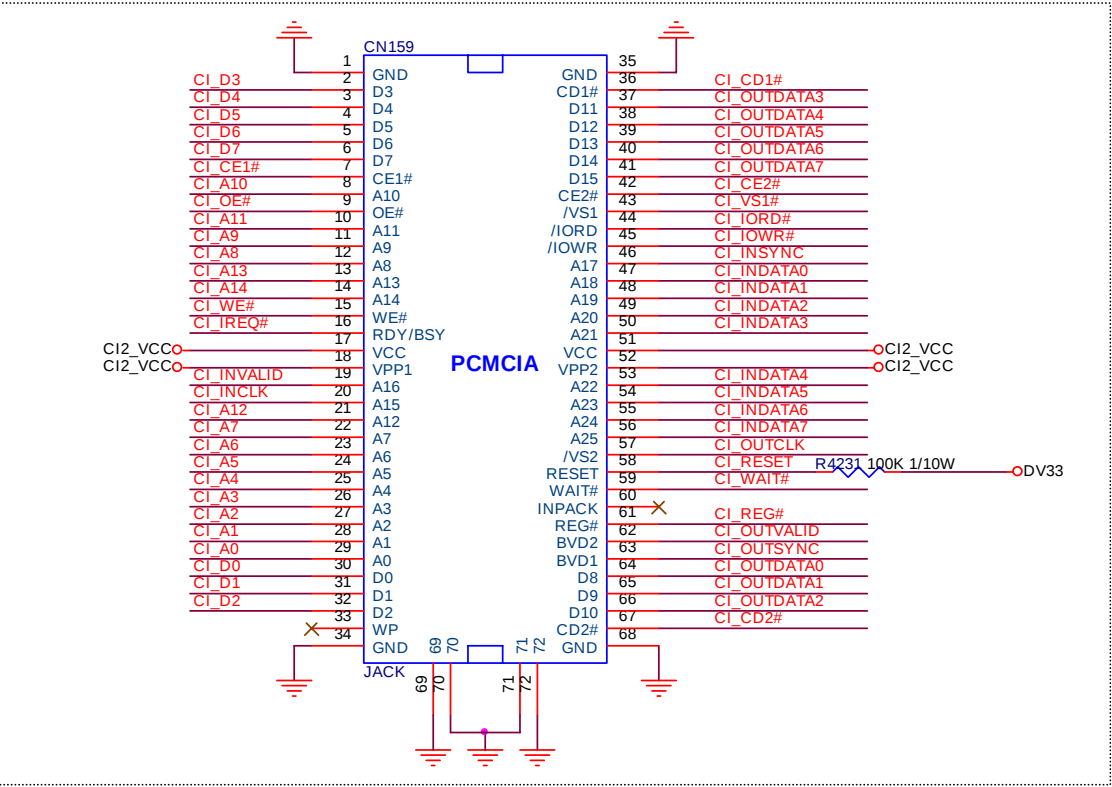
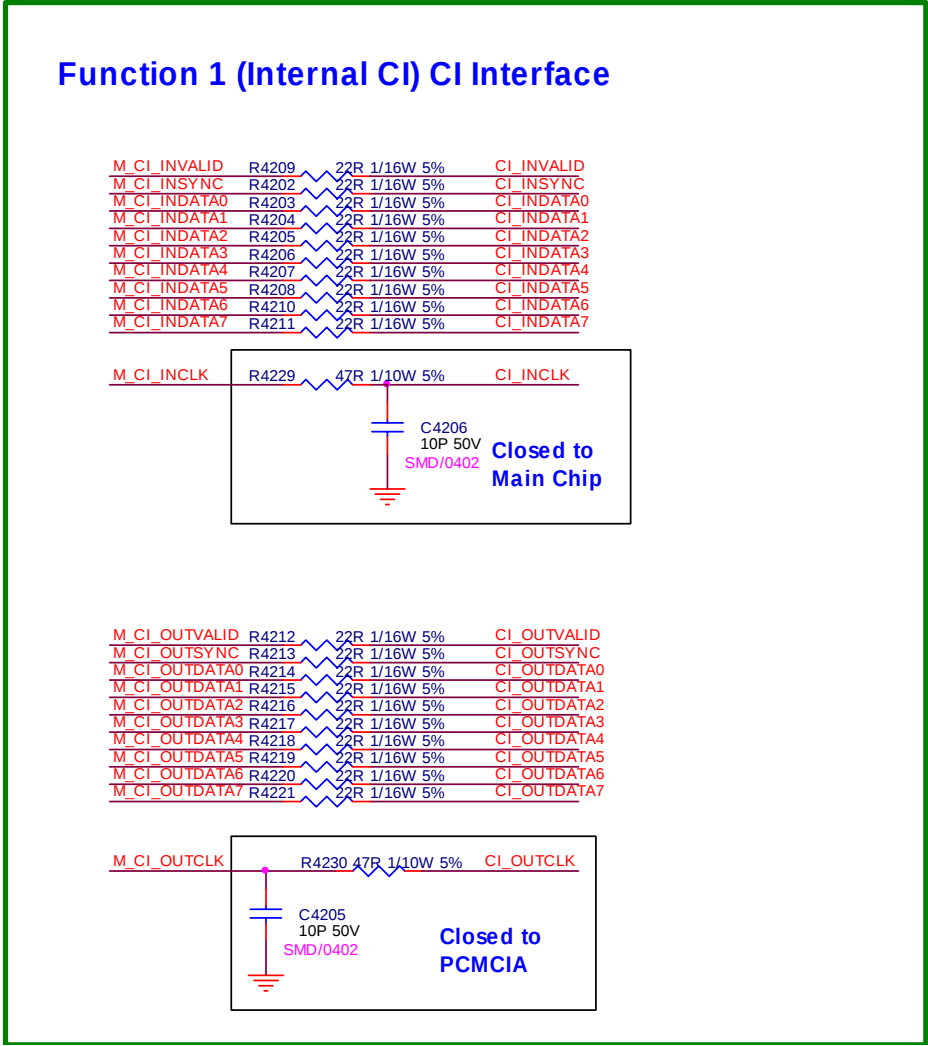
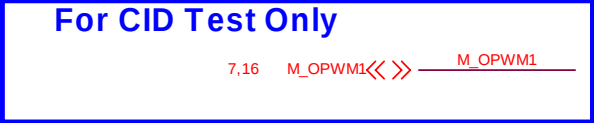
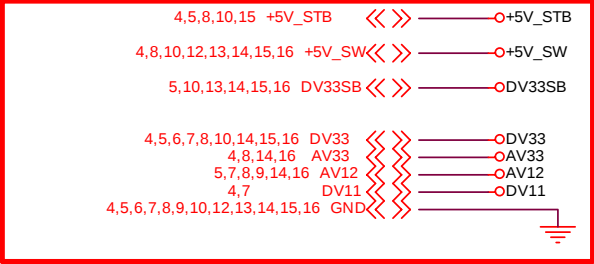
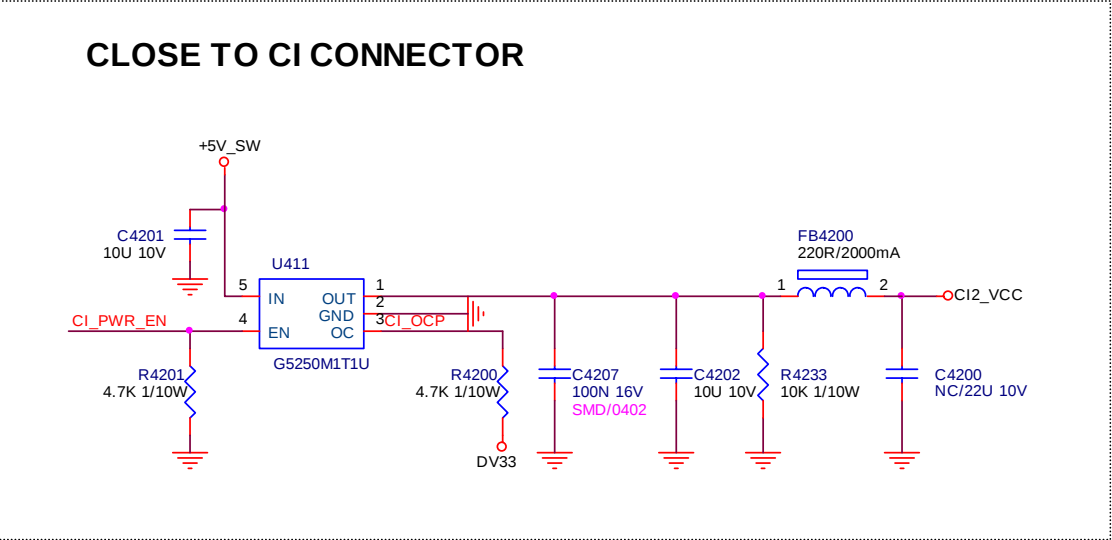
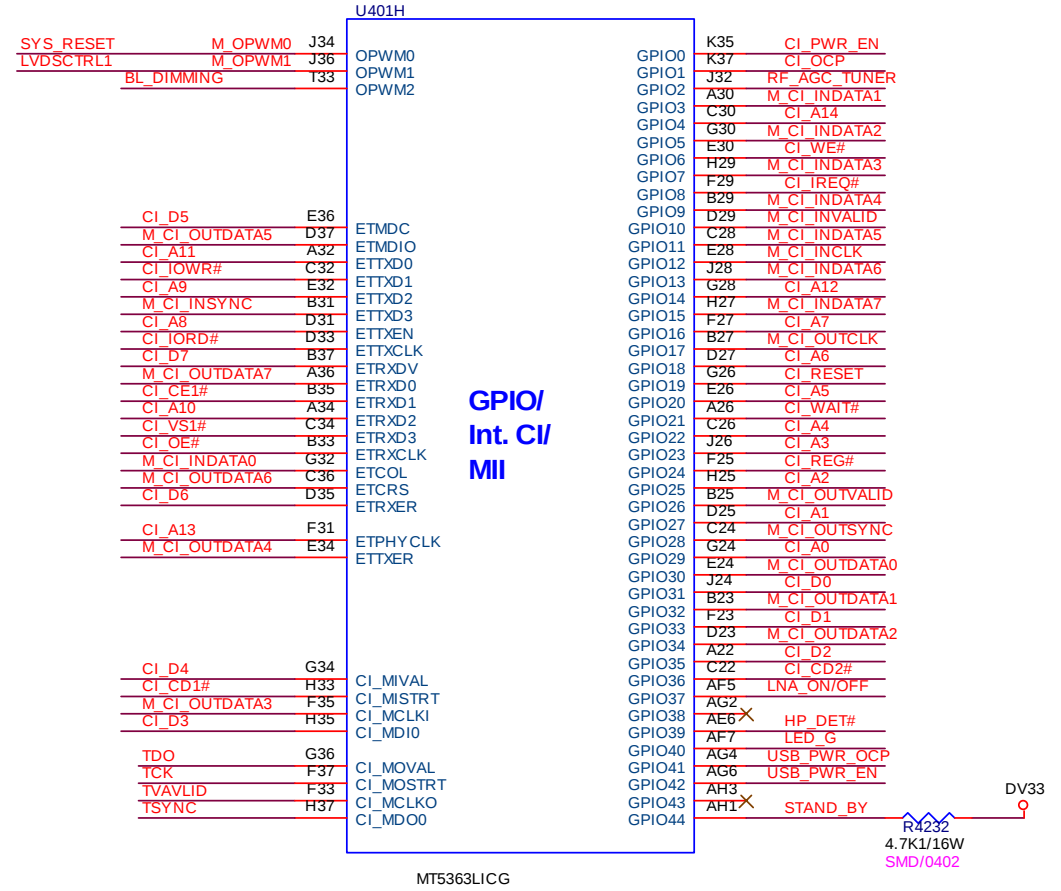
The schematic diagram illustrates the signal path for CLK0, showing termination and damping components. The signal originates from RCLK0 and RCLK0# signals, which are terminated to ground with 22R 1/16W 5% resistors (R4108 and R4110, SMD/0402). The signal then passes through a series of components: a 1K 1/10W 1% resistor (R4103), a 100OHM 1/16W resistor (R4106, SMD/0402), and a 1K 1/10W 1% resistor (R4102). The signal is then connected to the CLK0 pin of the IC. A damping network is also shown, consisting of a 100N 16V capacitor (C4101, SMD/0402) connected to the signal line and a 1K 1/10W 1% resistor (R4102) connected to ground. The signal is also connected to the RVREF1 pin of the IC. The diagram is labeled with 'NEAR IC' and 'NEAR DRAM' to indicate the proximity of the components to the respective ICs.

Damping and Termination for CLK

07. FLASH/JTAG/UART/IR/RS232

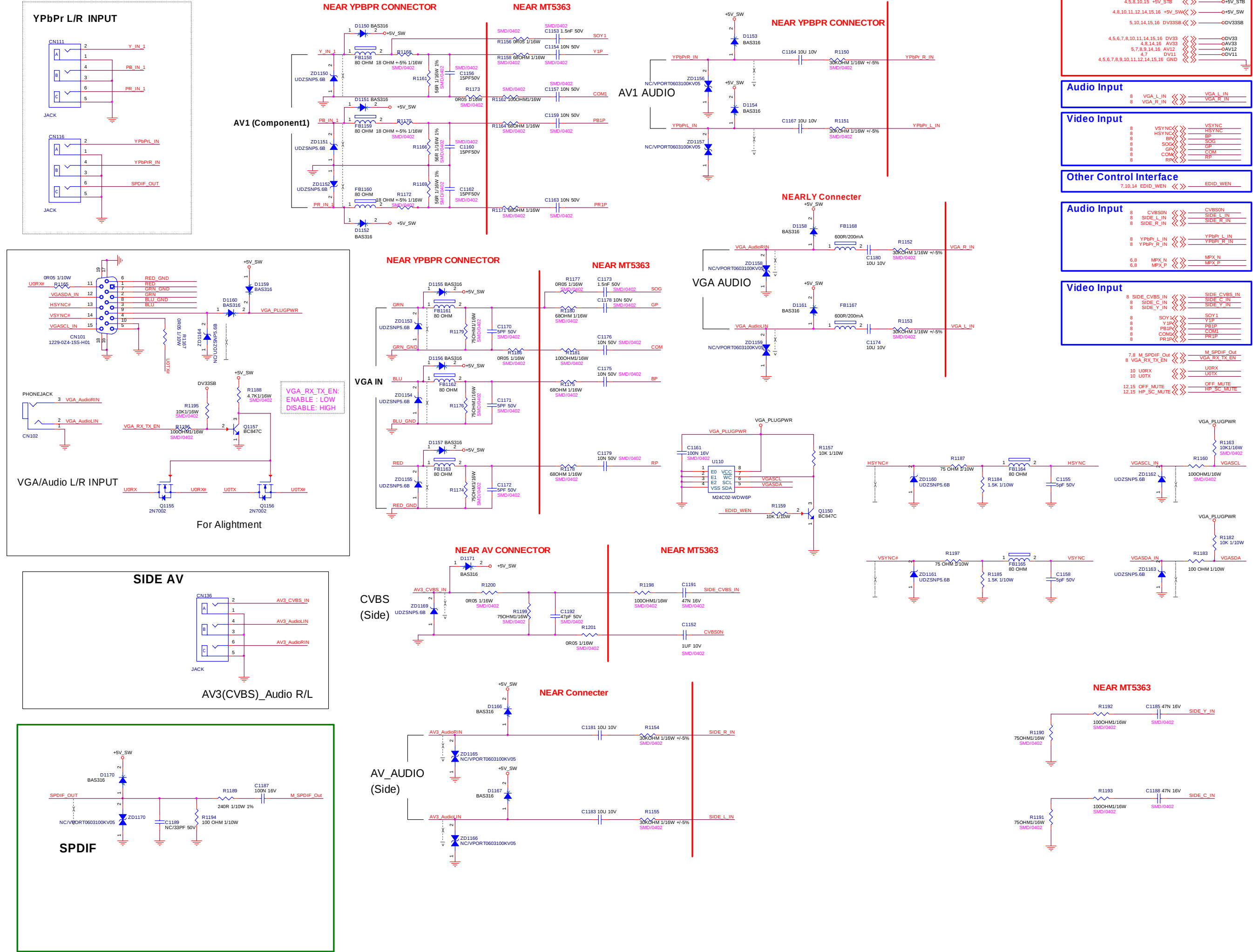


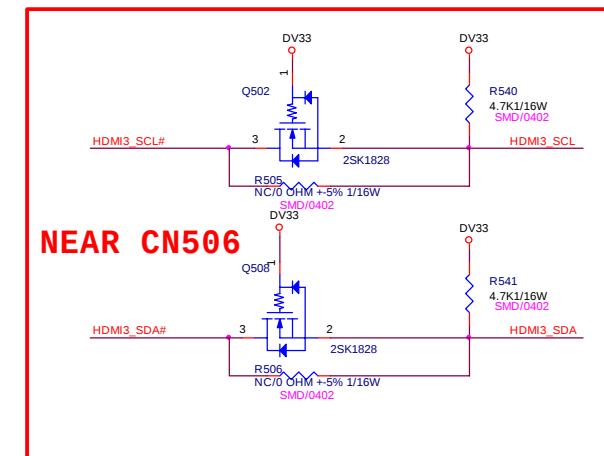
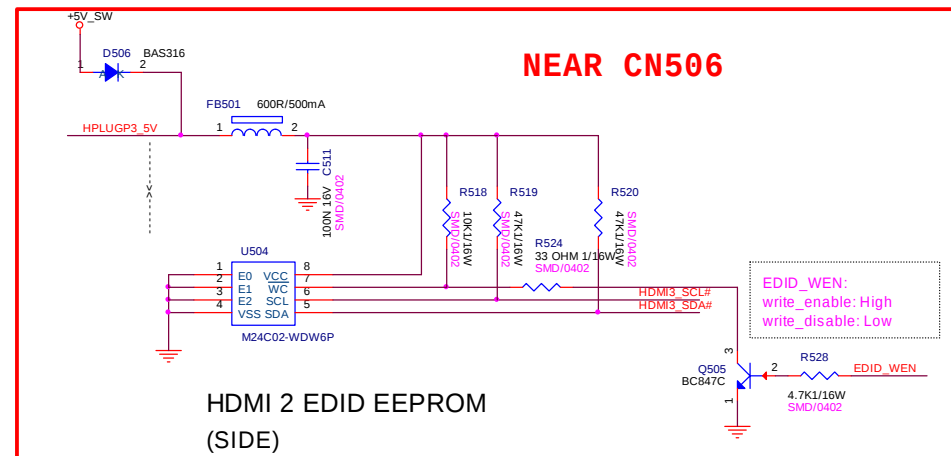
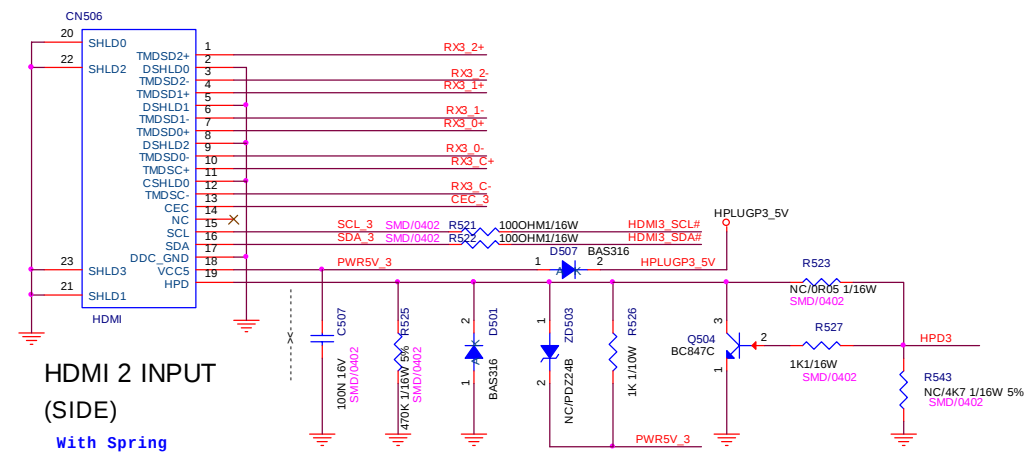
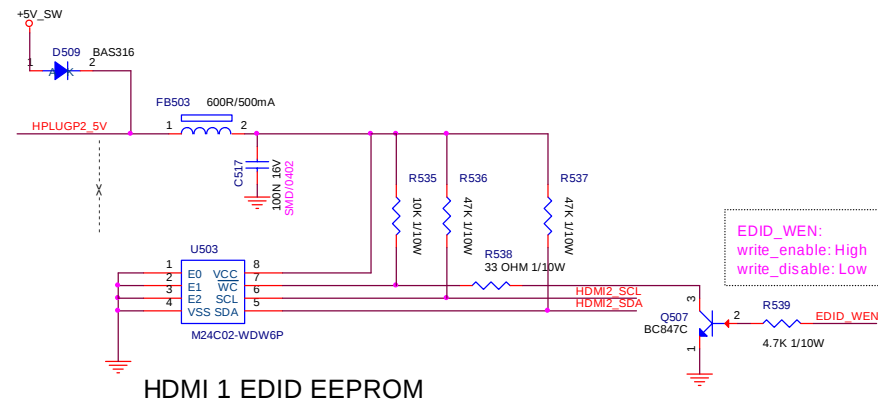
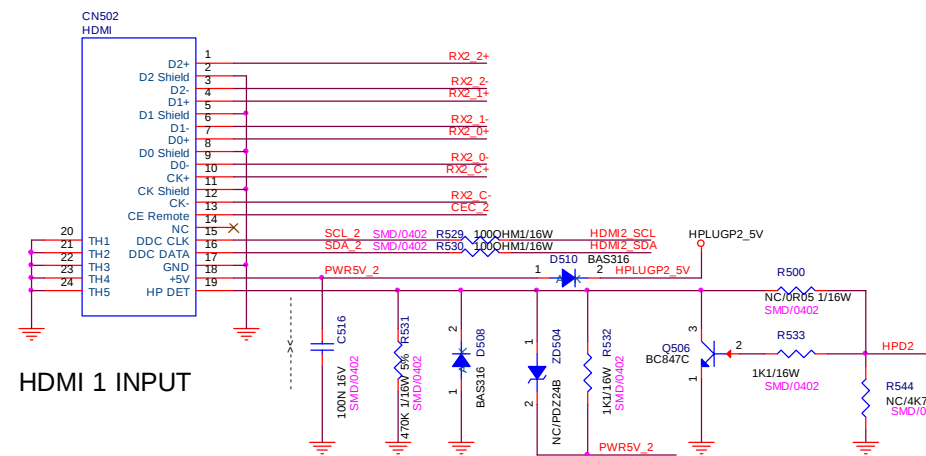
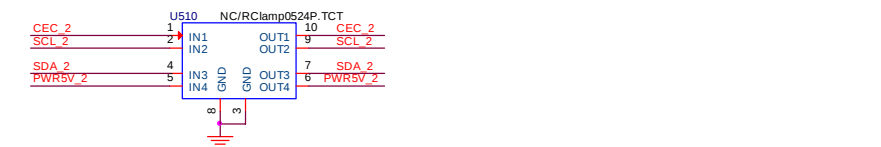
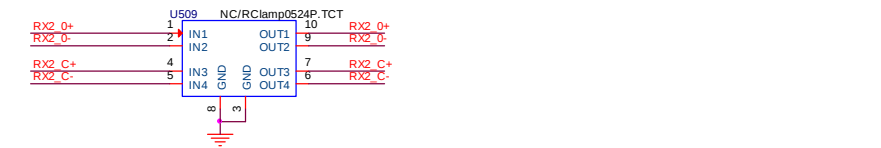
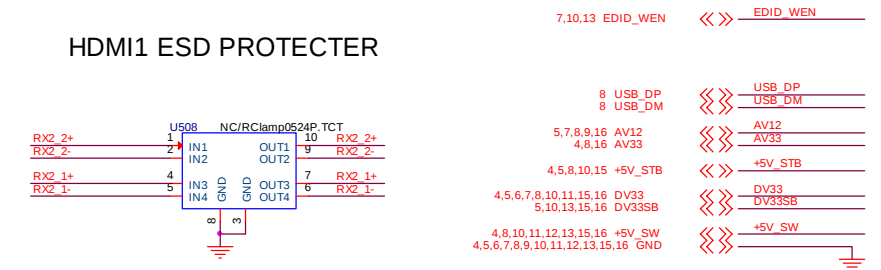
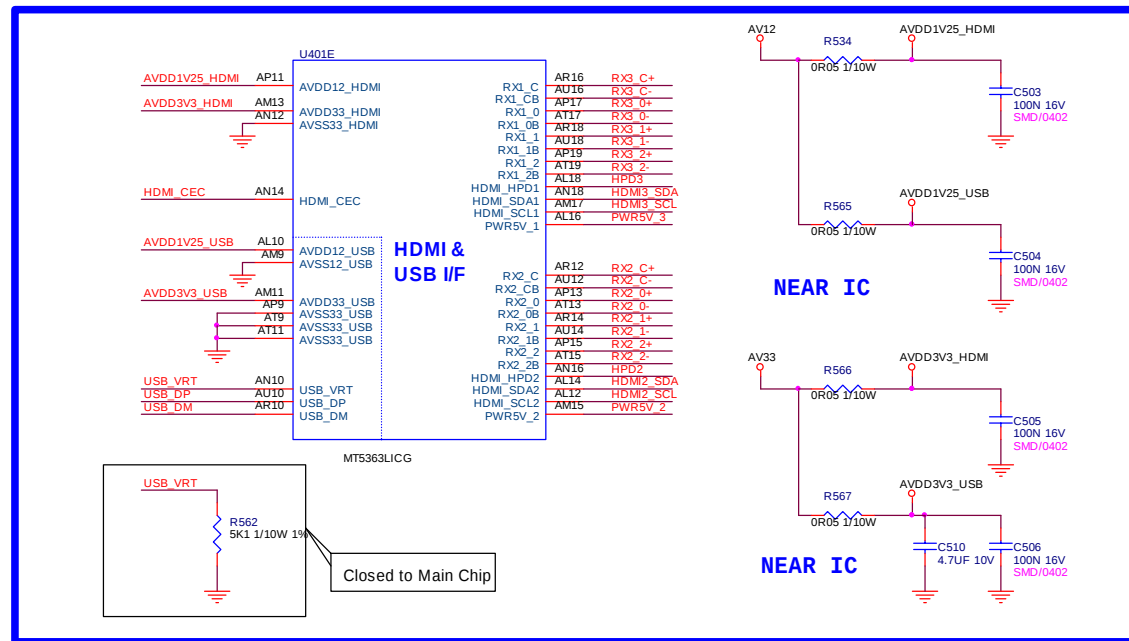
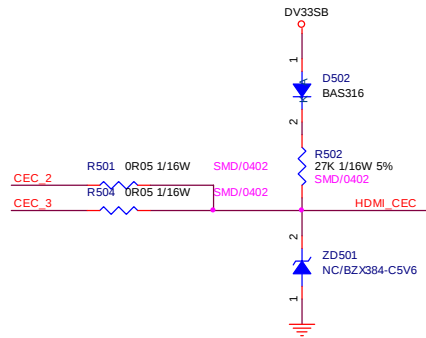
08. CI CARD





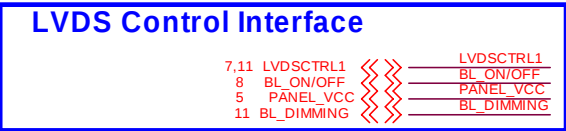
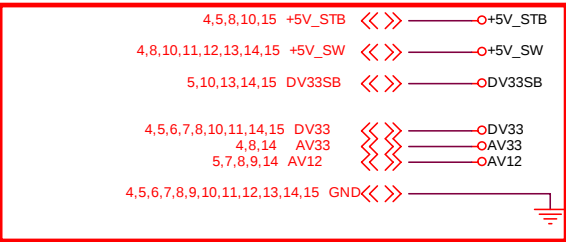
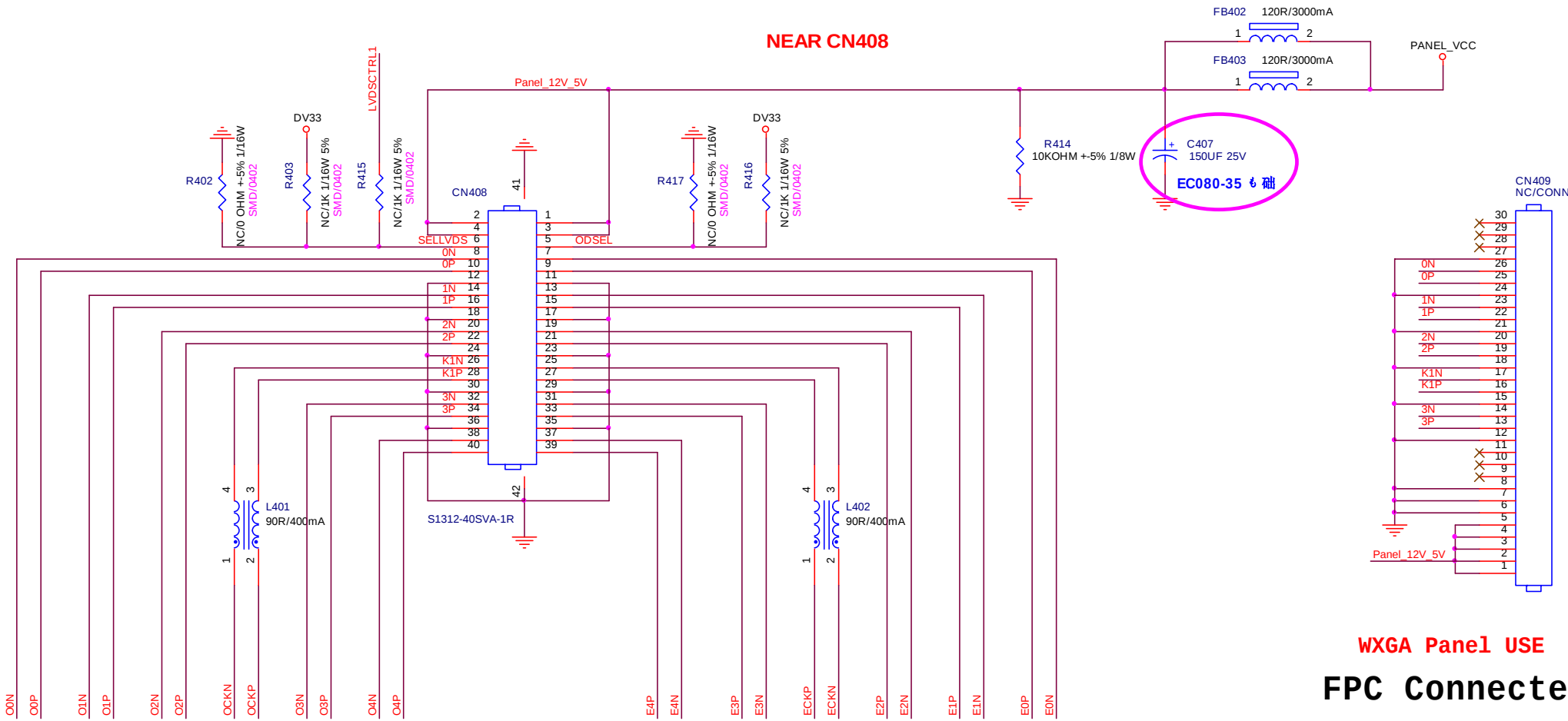
10. YPBPR/VGA IN/SPDIF OUT







13. LVDS OUTPUT

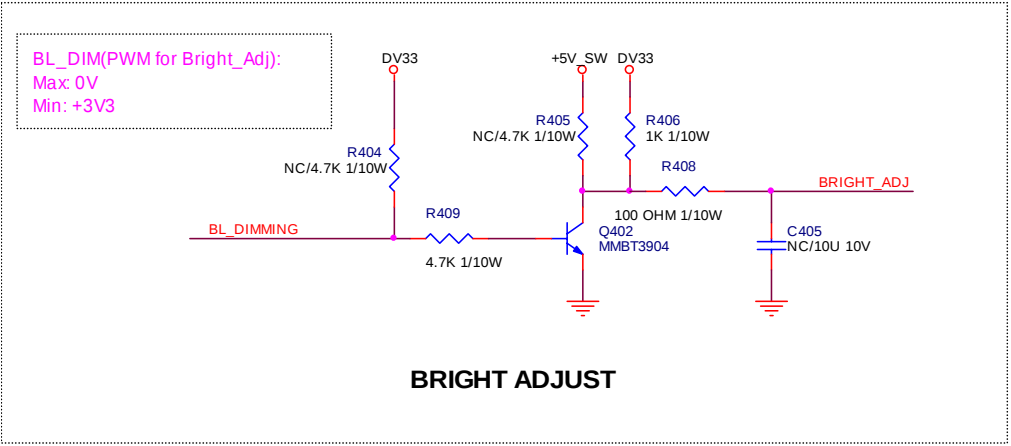


WXGA Panel USE

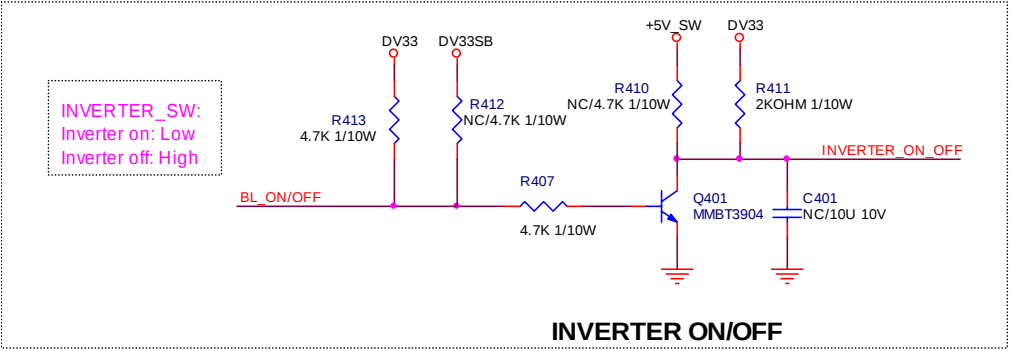
FPC Connector

FOR WXGA PANEL

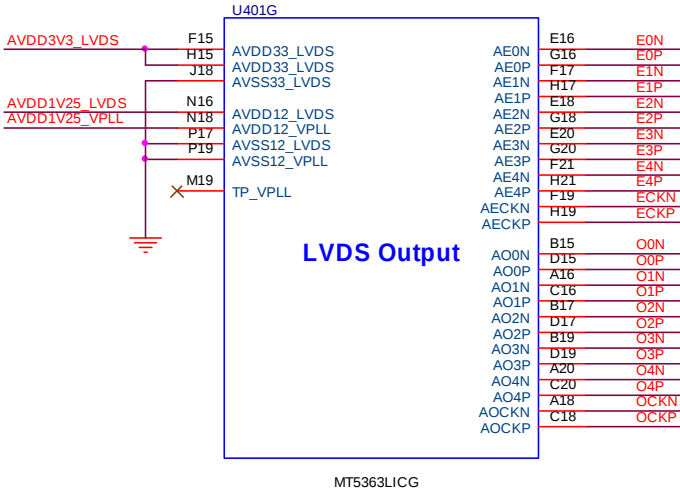
FOR FULL HD PANEL



BL CONTROL	R408	R406	C405
PWM CONTROL	100R	1K	N/C
DC CONTROL	5K6	1K	10U

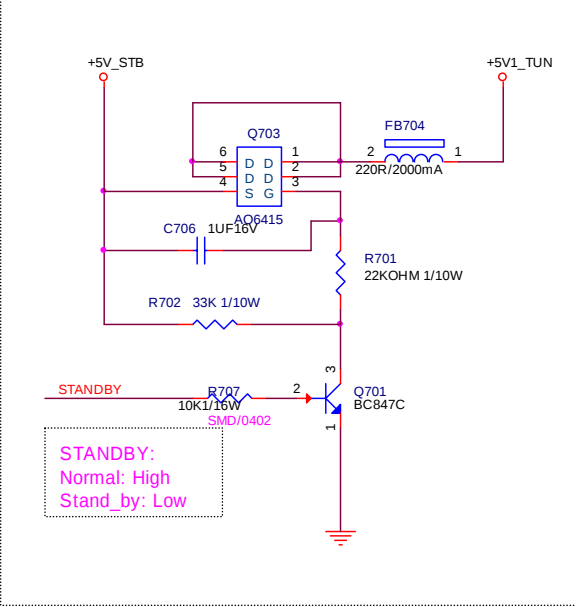
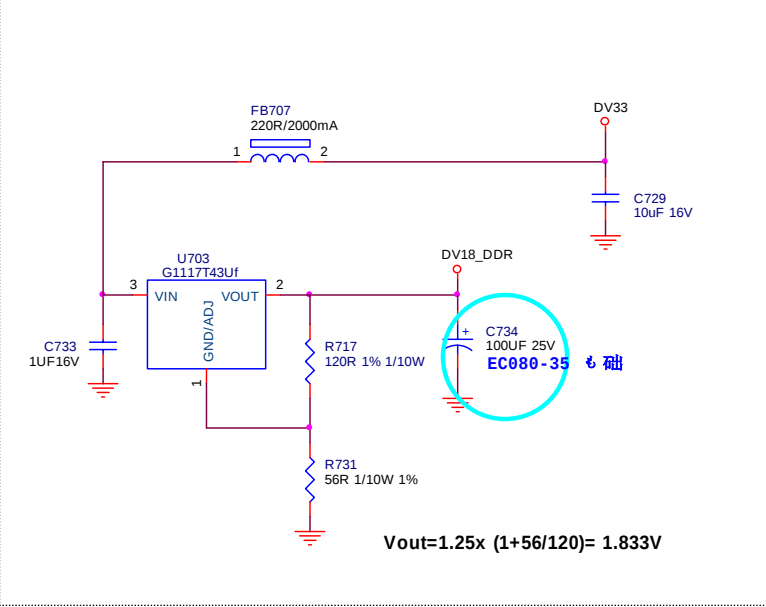
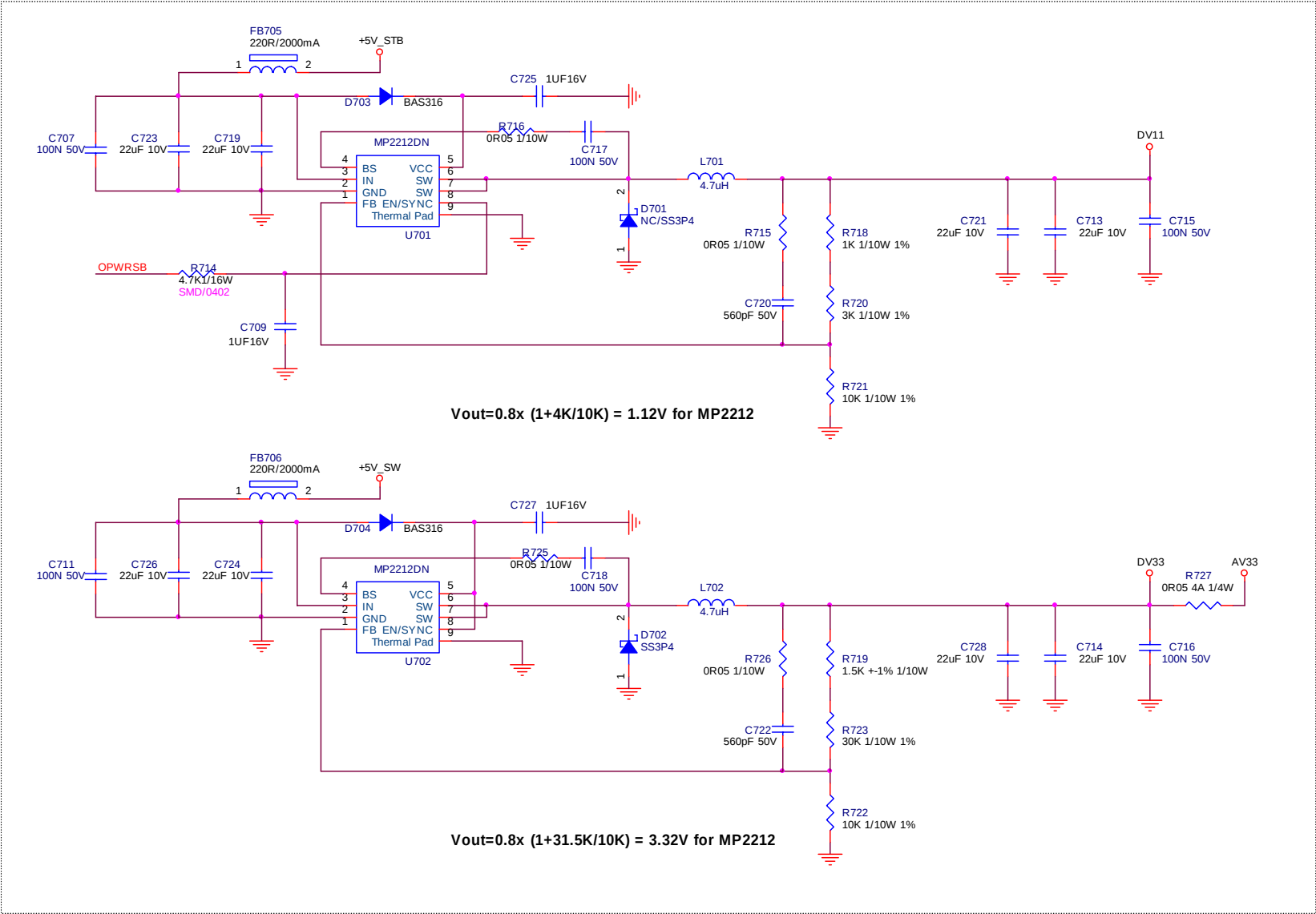
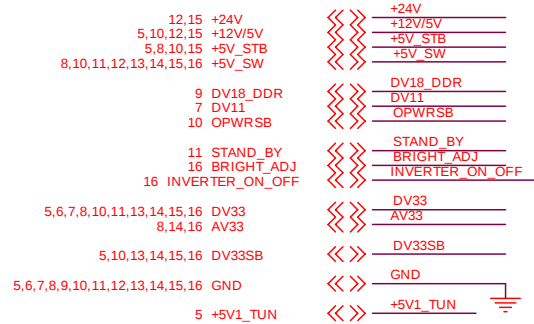
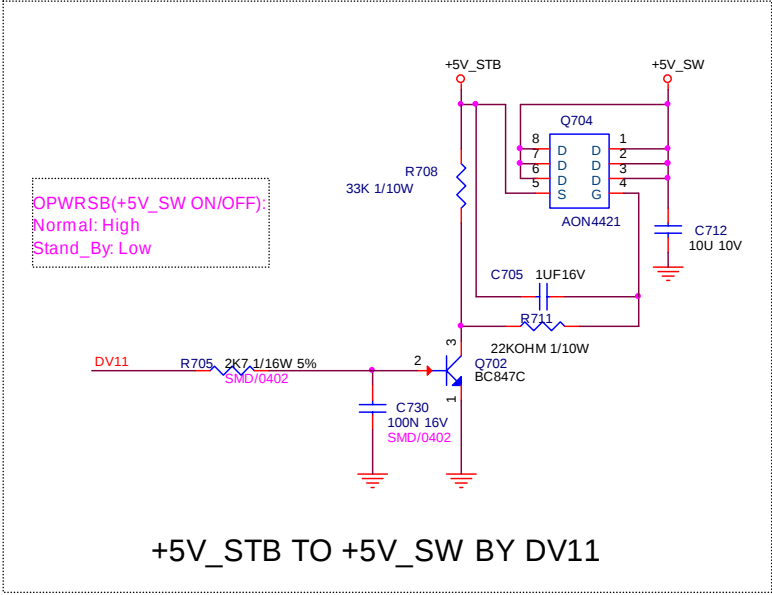
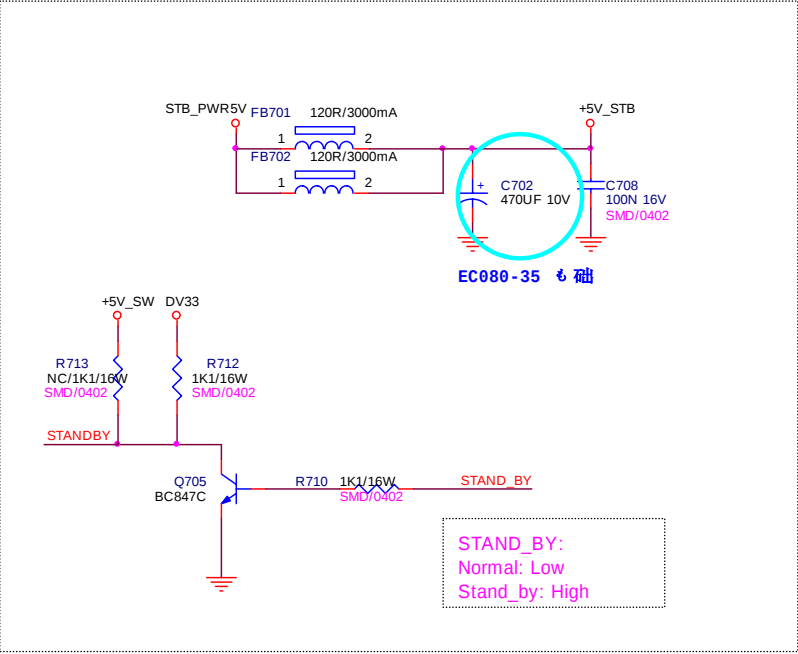
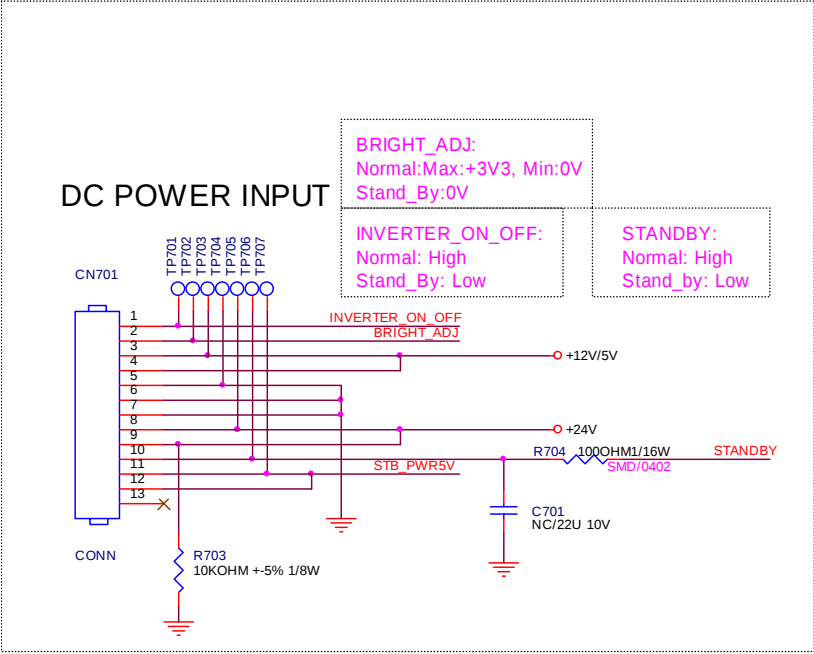


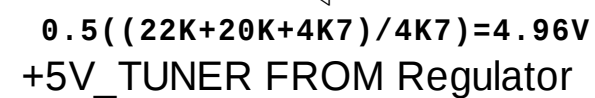
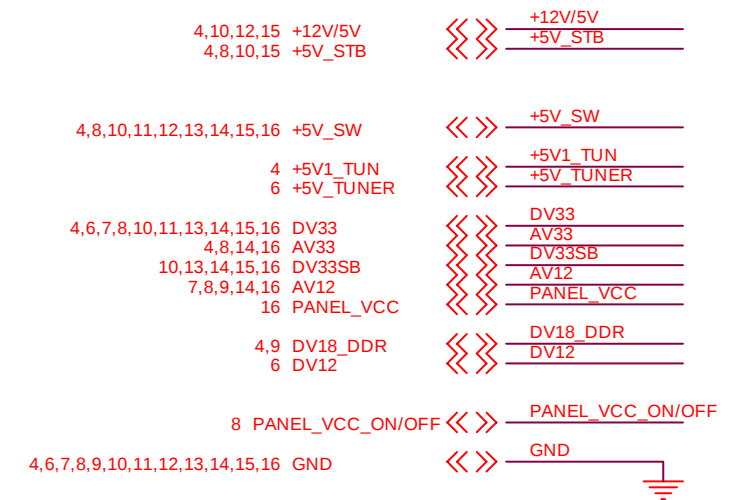
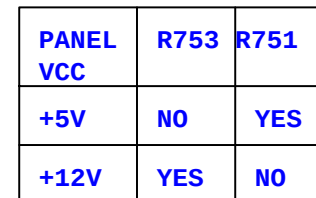
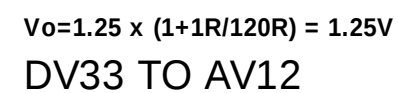
INVERTER ON/OFF	R410	R411
3V3	N/C	2K
5V	4K7	N/C



MAIN SCHEMATIC DIAGRAM (for 32", 37" and 42")
01. POWER-1

EU MT5363 - 4 LAYERS







04. MT5363 BYPASS/TRAP.



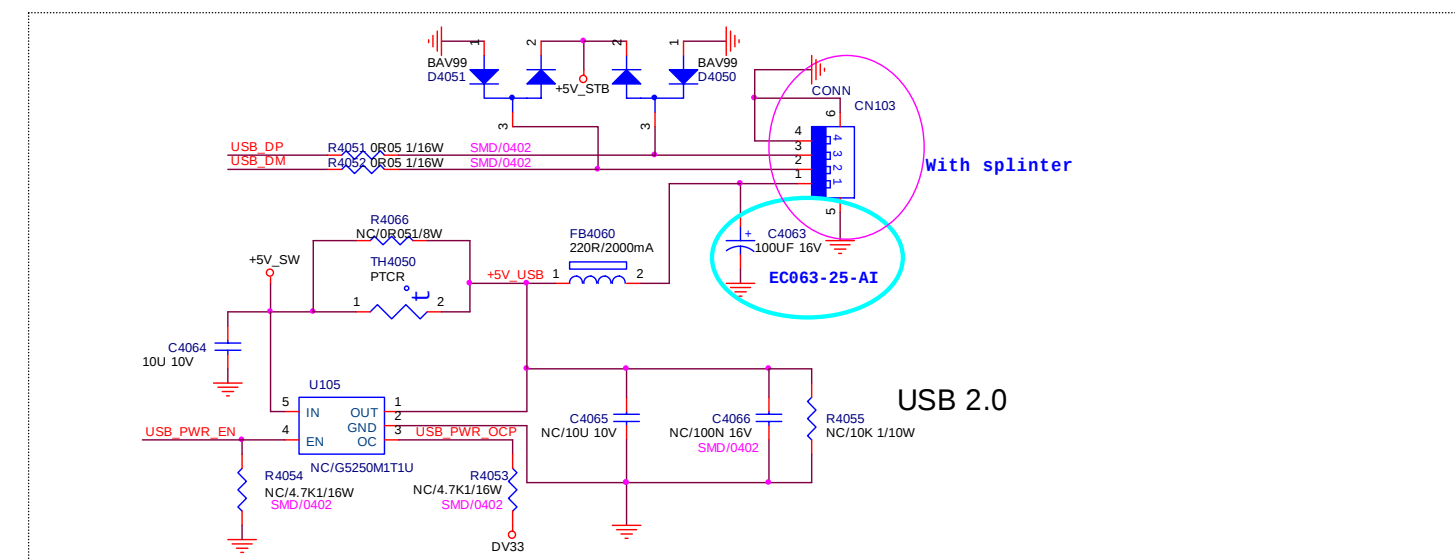
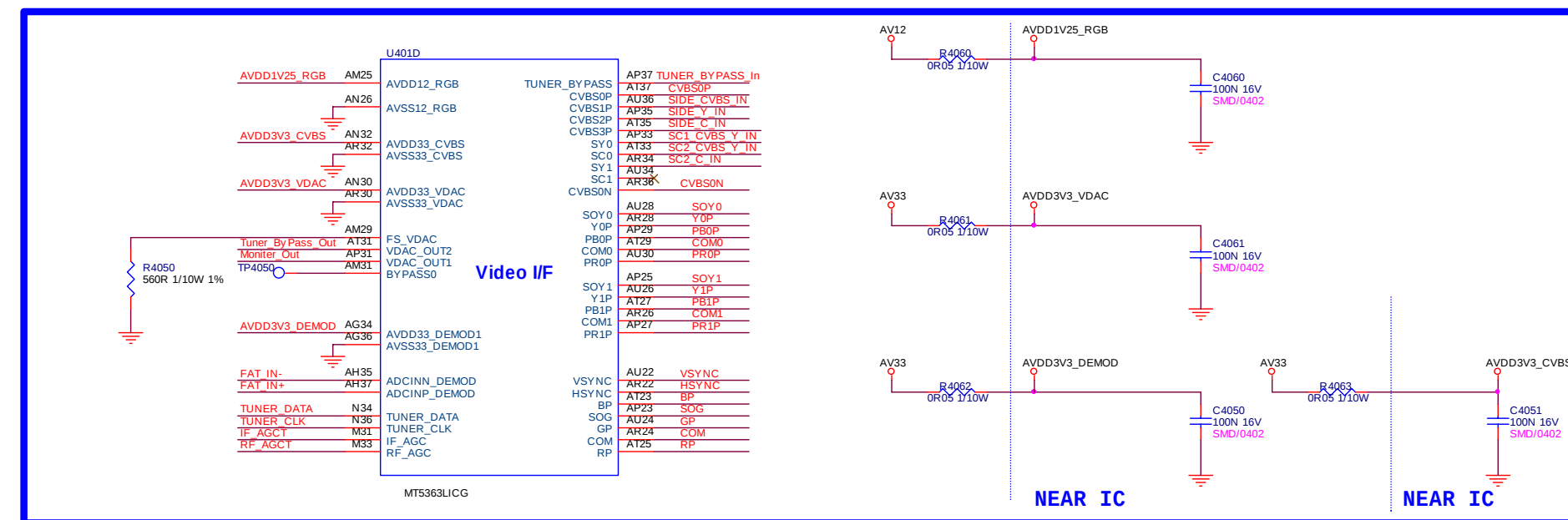
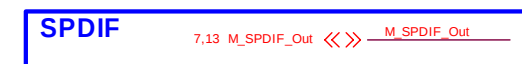
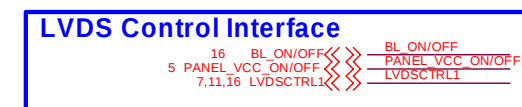
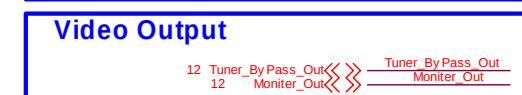
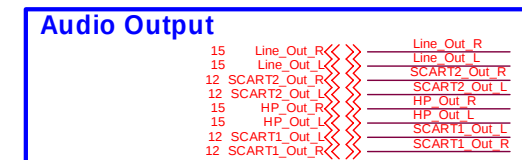
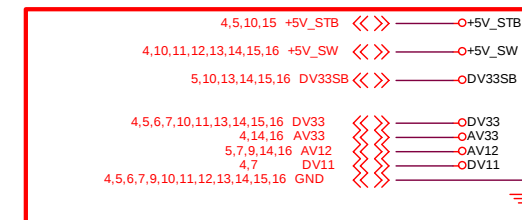
Strapping Mode	0PCTRL3(0)
PDWNC Normal	0

MT5363 STRAPPING MODE

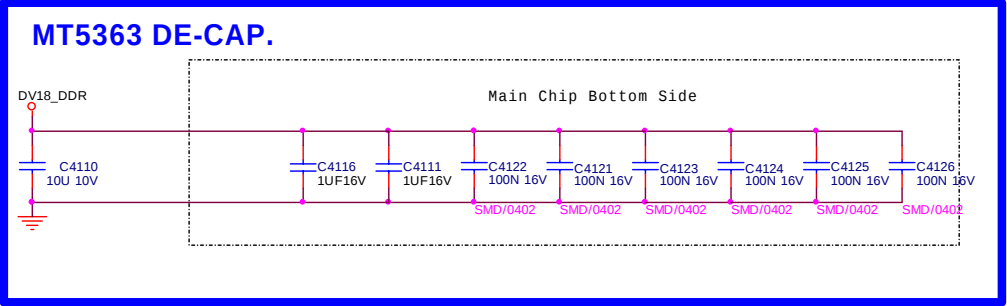
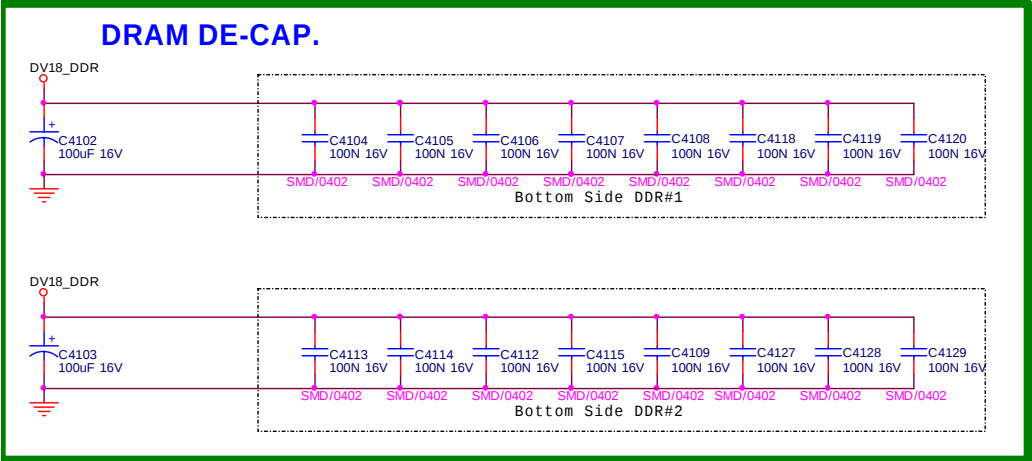
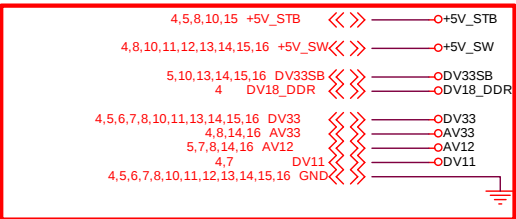
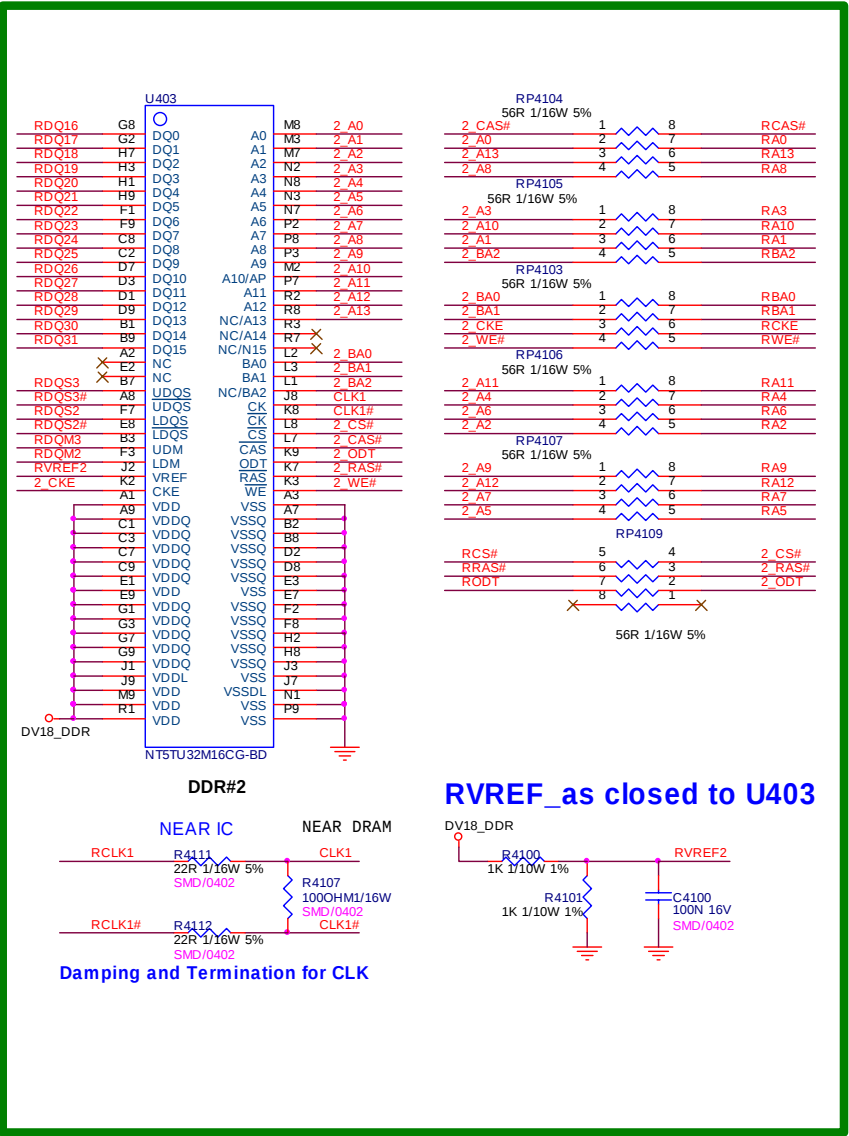
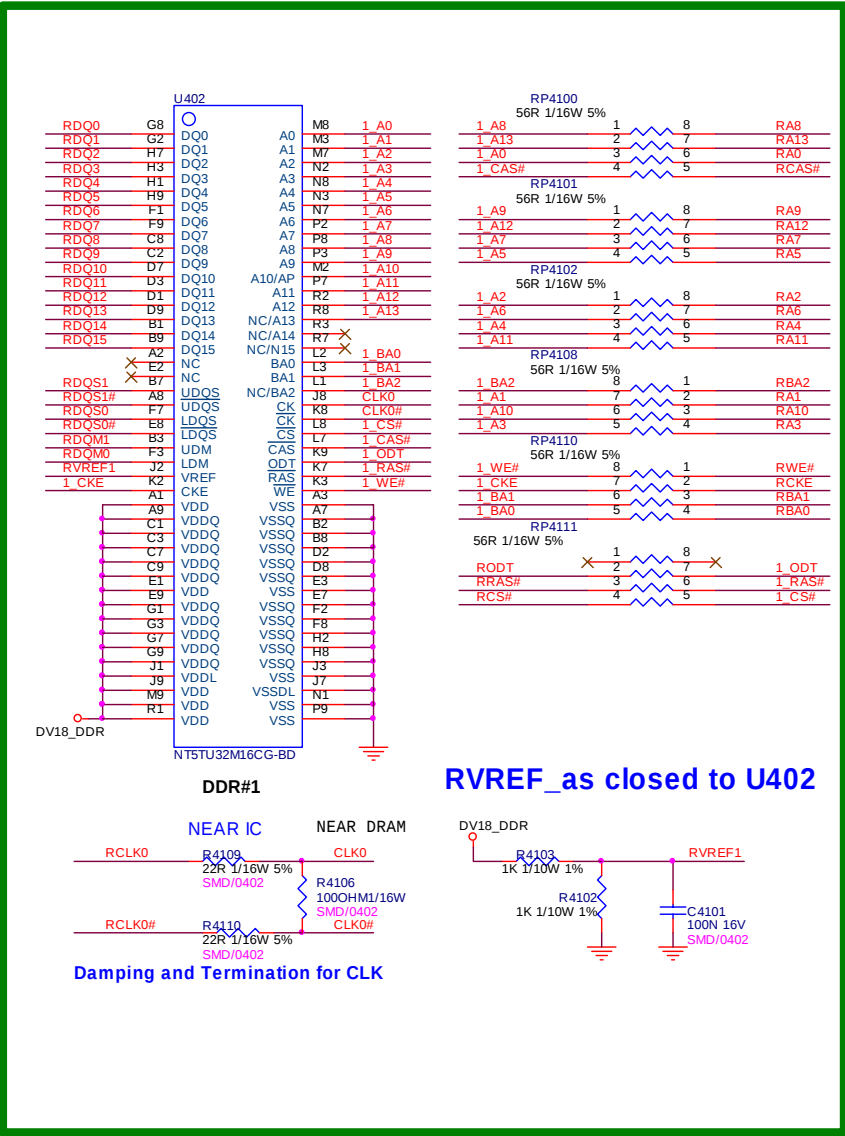
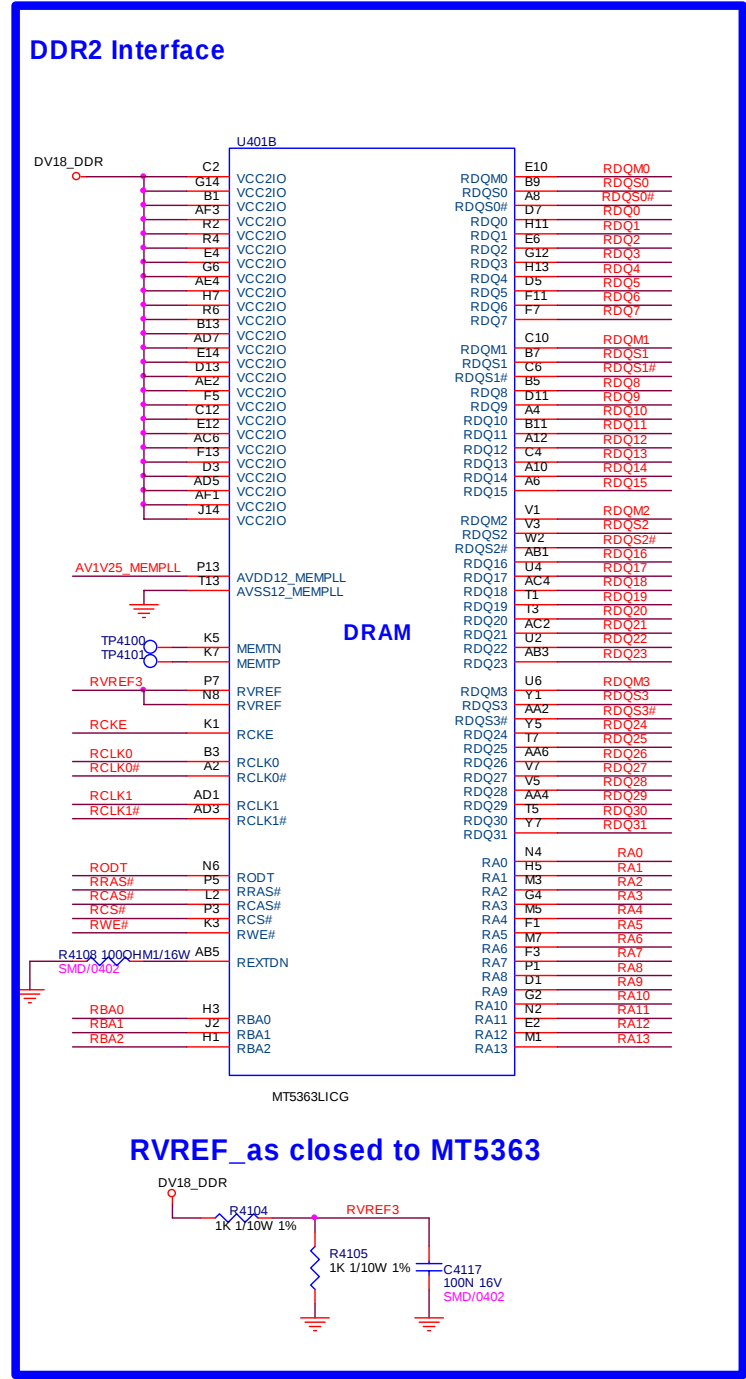


4,5,8,10,15 +5V_STB <<< ————○+5V_STB
4,8,10,11,12,13,14,15,16 +5V_SW <<< ————○+5V_SW
5,10,13,14,15,16 DV33SB <<< ————○DV33SB
4,9 DV18_DDR <<< ————○DV18_DDR
4,5,6,8,10,11,13,14,15,16 DV33 <<< ————○DV33
4,8,14,16 AV33 <<< ————○AV33
5,8,9,14,16 AV12 <<< ————○AV12
4 DV11 <<< ————○DV11
4,5,6,8,9,10,11,12,13,14,15,16 GND <<< ————

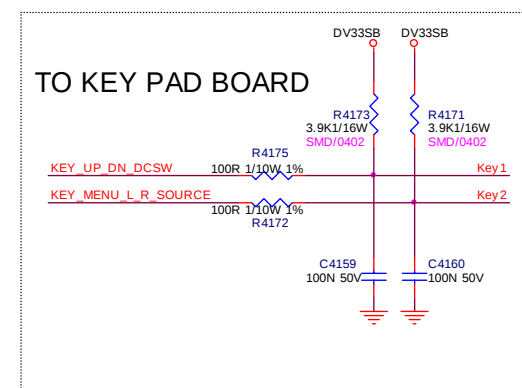
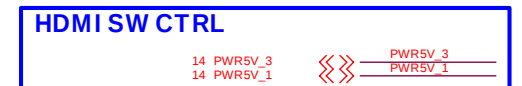
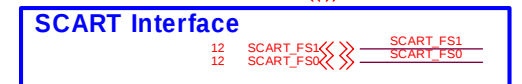
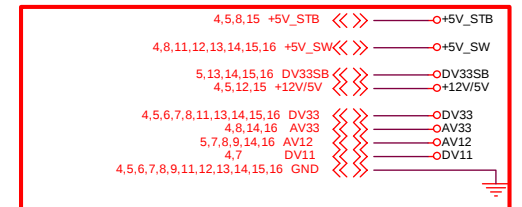
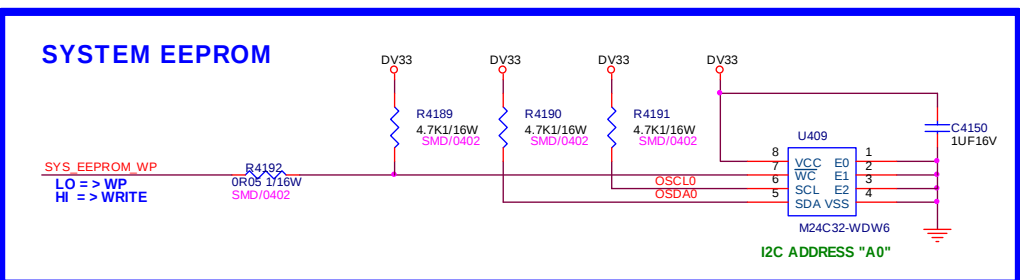
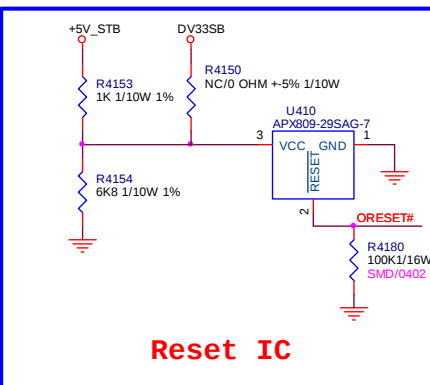
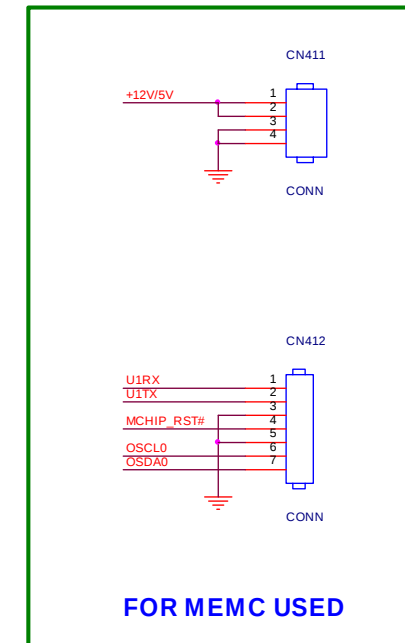
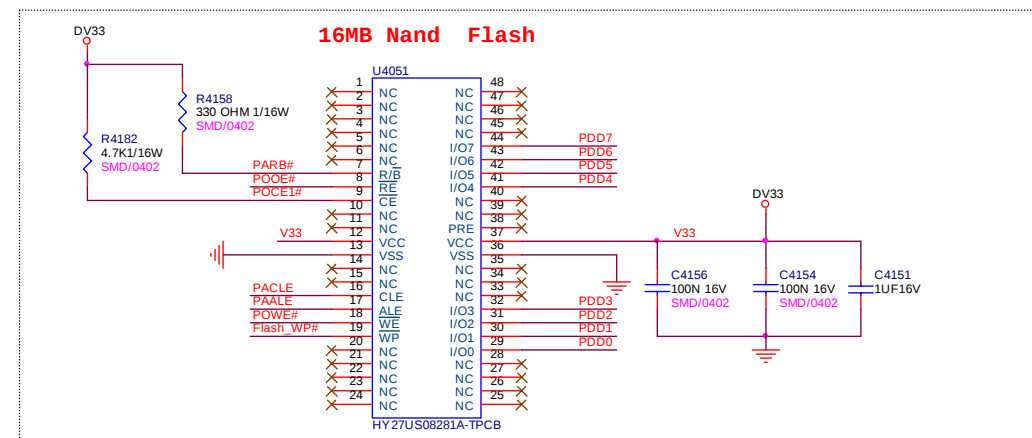
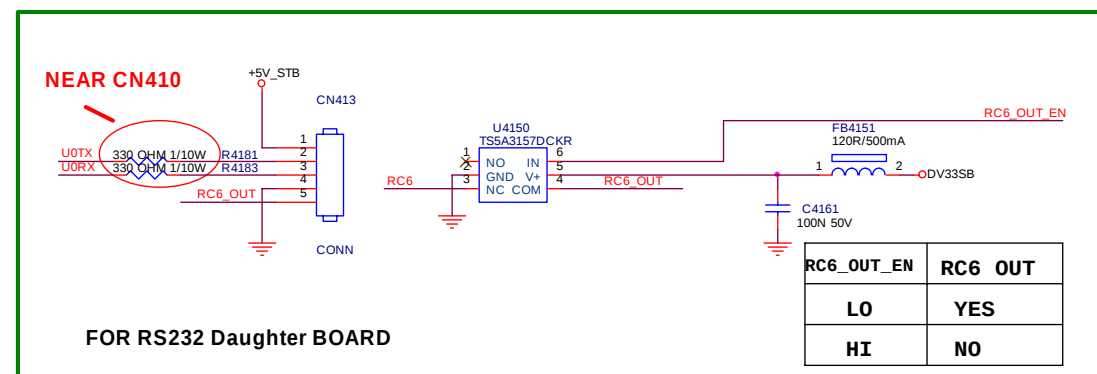
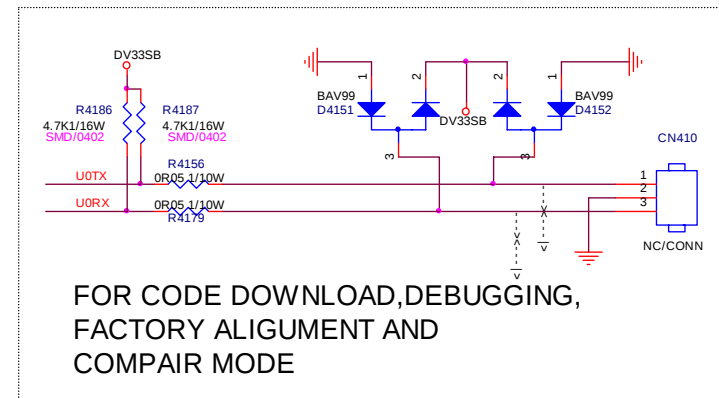
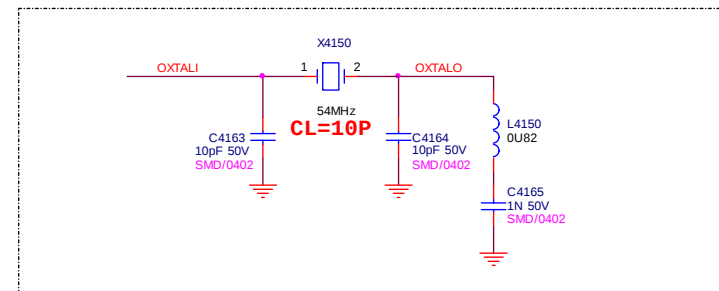
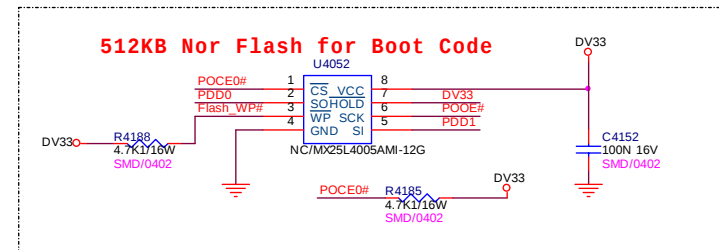
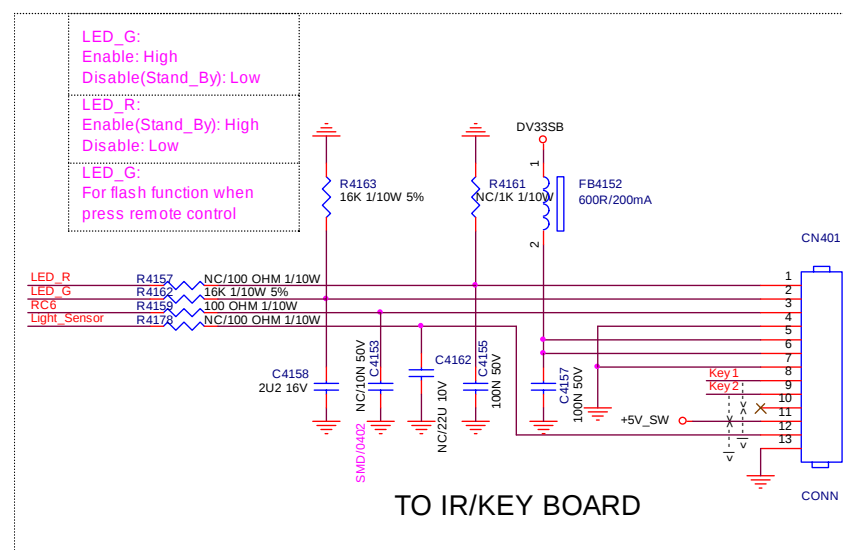
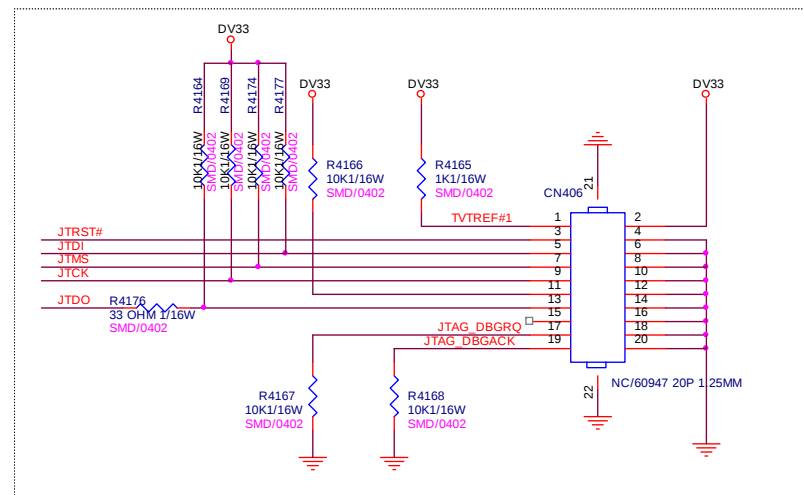
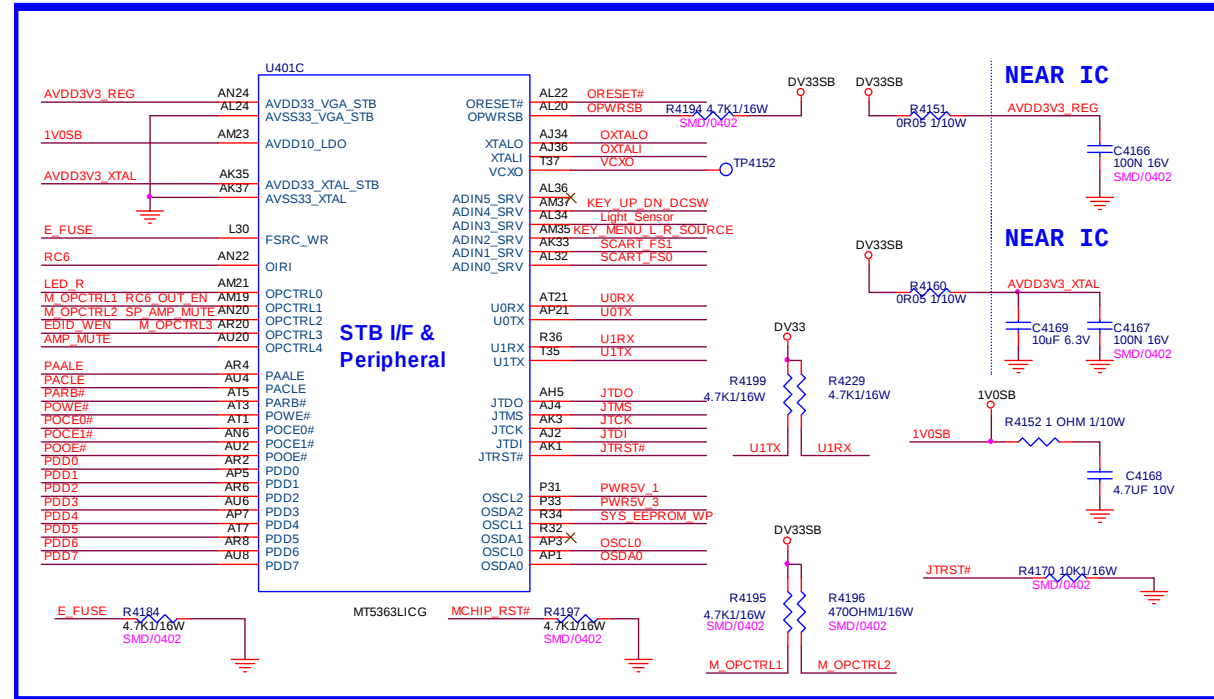
6,8	M_AOLRCK	↔	M_AOLRCK
8	M_AOBCK	↔	M_AOBCK
8	M_AOSDATA0	↔	M_AOSDATA0
8,13	M_SPDIF_Out	↔	M_SPDIF_Out
11,16	M_OPWM1	↔	M_OPWM1
10,13,14	M_OPCTRL3	↔	M_OPCTRL3

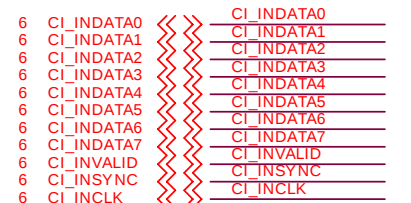
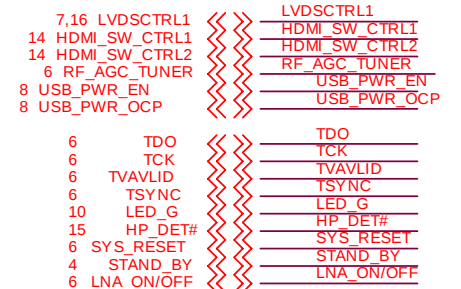
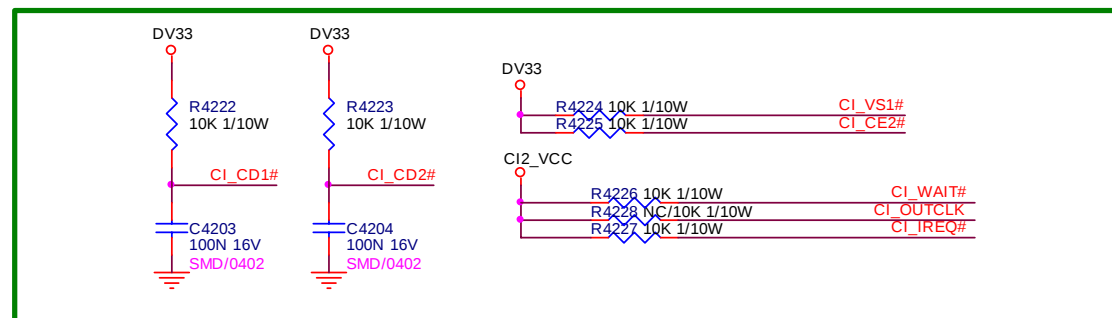
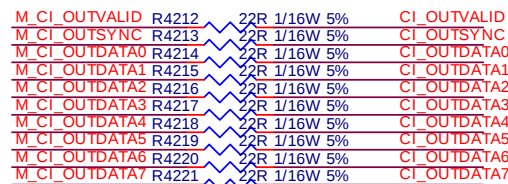
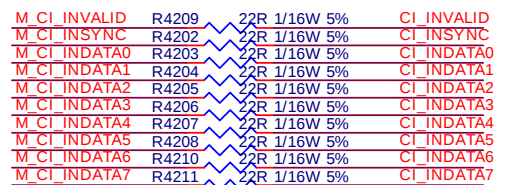


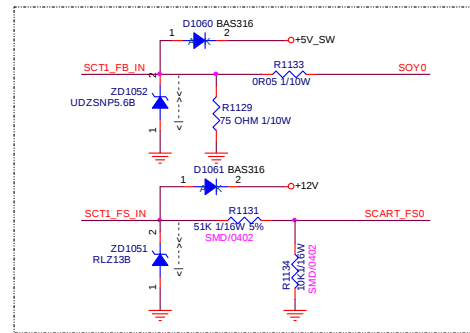
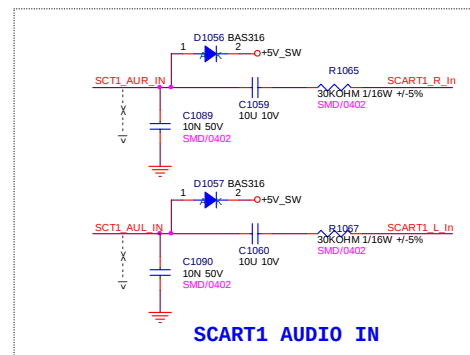
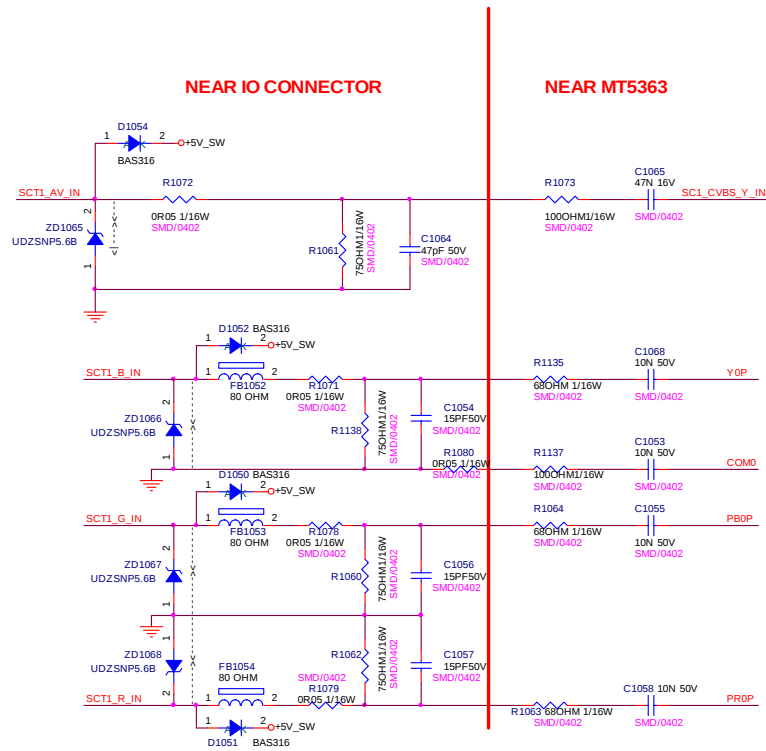
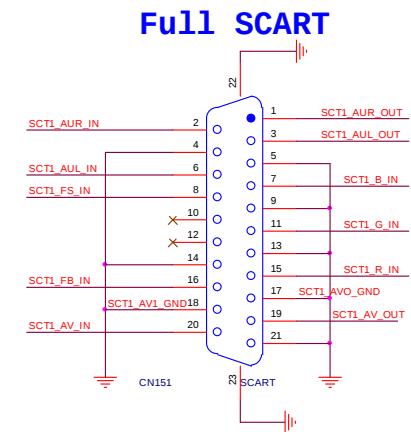
06. DDR2 MEMORY



07. FLASH/JTAG/UART/IR/RS232







	4.5,8,10,15	+5V_STB	<><	-<+5V_STB
	4.15	+2A	<><	-<+2A
	4.8,10,11,13,14,15,16	+5V_SW	<><	-<+5V_SW
	5,10,13,14,15,16	DV33SB	<><	-<DV33SB
		+12V	<><	-<+12V
	4.5,10,15	+12V/5V	<><	-<+12V/5V
	4,5,6,7,8,10,11,13,14,15,16	DV33	<><	-<DV33
		AV33	<><	-<AV33
	5,7,8,9,13,14,16	AV12	<><	-<AV12
	4,7	DV11	<><	-<DV11
	4,5,6,7,8,9,10,11,13,14,15,16	GND	<><	-<GND

Audio Input

8	SCART2_L_in	SCART2_L_in
8	SCART2_R_in	SCART2_R_in
8	SCART1_L_in	SCART1_L_in
8	SCART1_R_in	SCART1_R_in

Audio Output

8	SCART1_Out_R	}}	}}	SCART1_Out_R
8	SCART1_Out_L	}}	}}	SCART1_Out_L
8	SCART2_Out_R	}}	}}	SCART2_Out_R
8	SCART2_Out_L	}}	}}	SCART2_Out_L

Video Input

8	SC1_CVBS_Y_IN	SC1_CVBS_Y_IN
8	SC2_CVBS_Y_IN	SC2_CVBS_Y_IN
8	SC2_C_IN	SC2_C_IN
8	SOY0	SOY0
8	Y0P	Y0P
8	PB0P	PB0P
8	COM0	COM0
8	PRO0P	PRO0P

8,13	BR	BP
8,13	SOQ	SOQ
8,13	GR	GP
8,13	COM	COM
8,13	RP	RP

Video Output

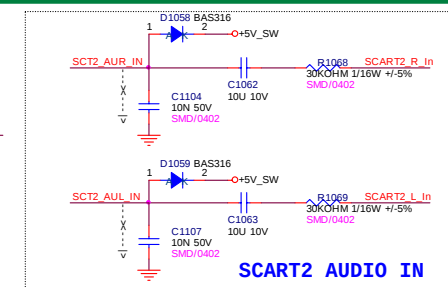
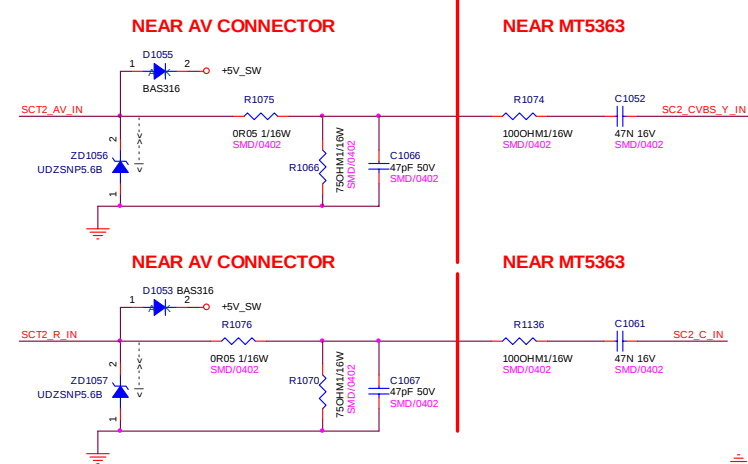
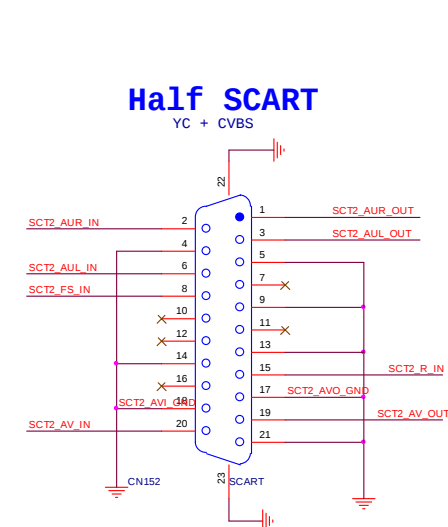
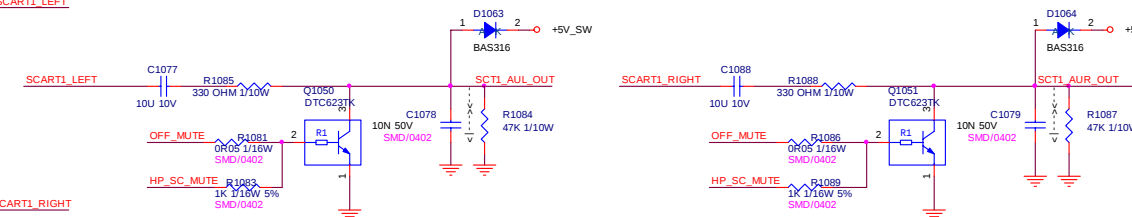
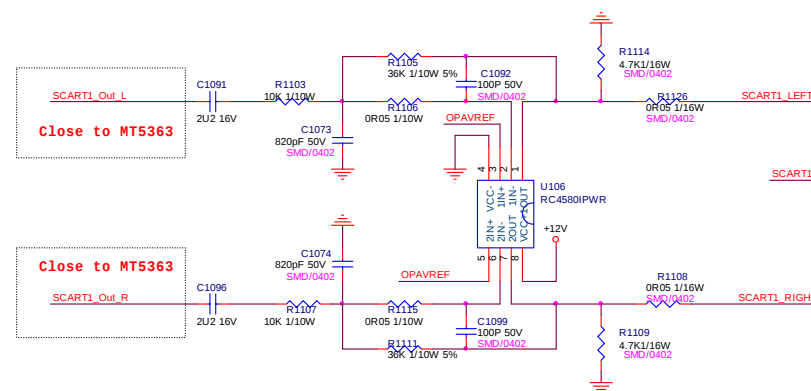
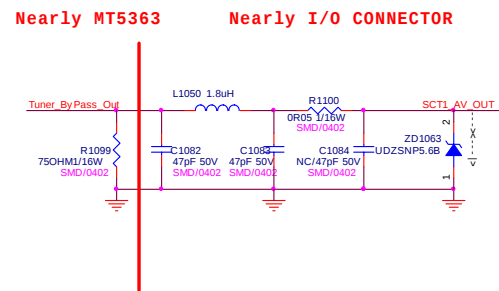
13	AV_OUT	AV_OUT
8	Tuner_ByPass_Out	Tuner_ByPass_Out
8	Monitor_Out	Monitor_Out

SCART Interface

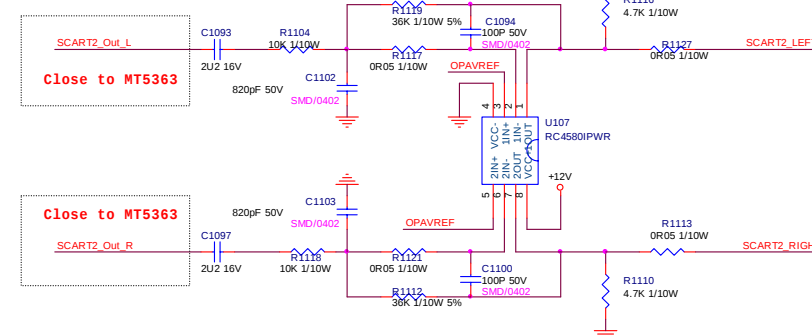
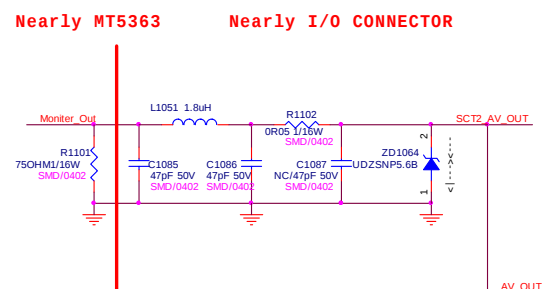
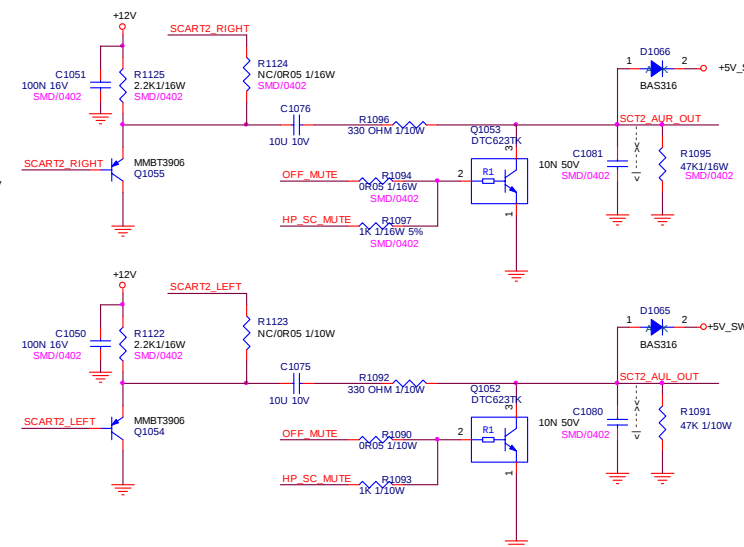
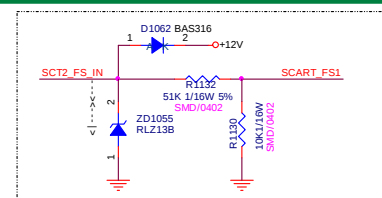
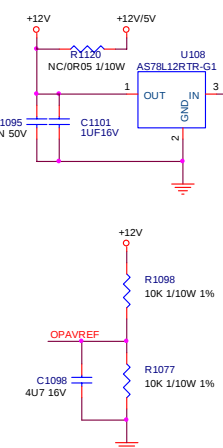
10	SCART_FS1	SCART_FS1
10	SCART_FS0	SCART_FS0

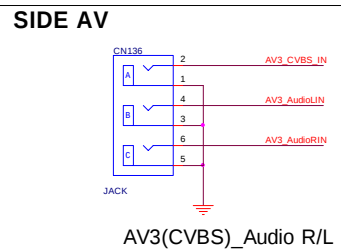
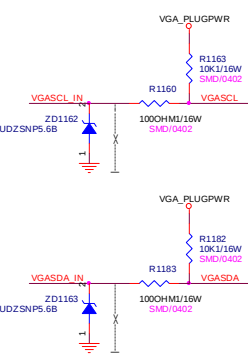
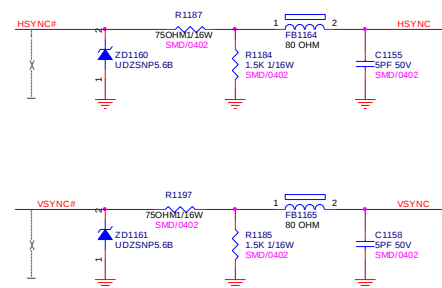
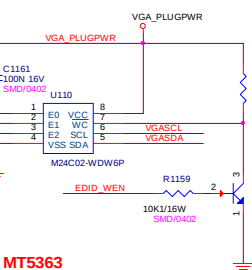
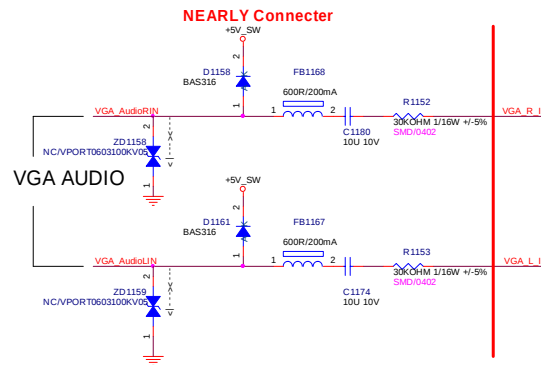
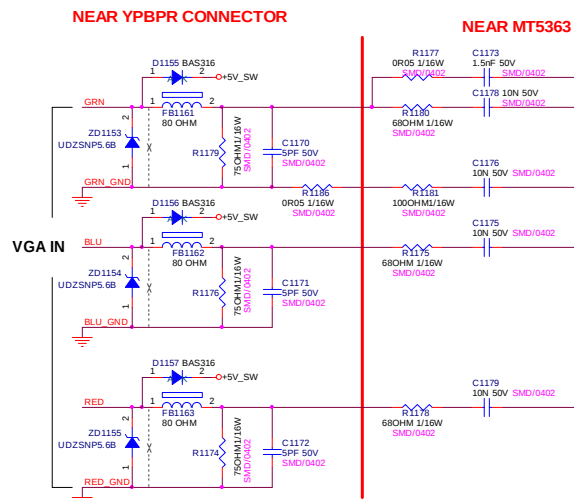
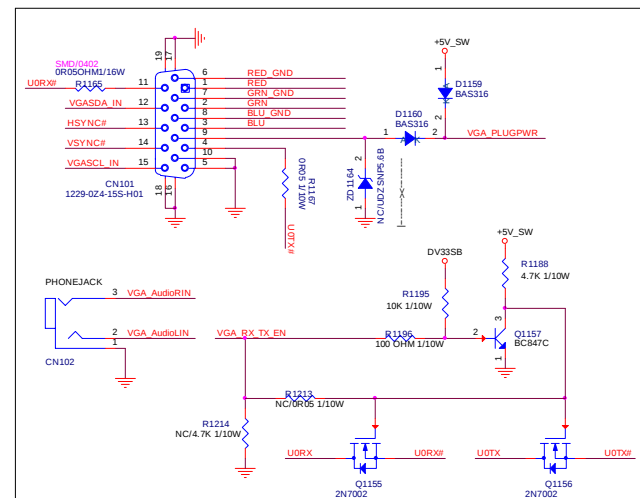
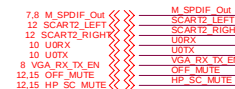
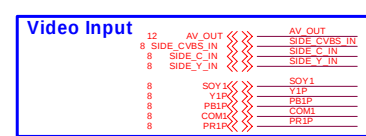
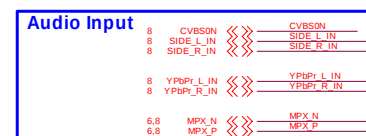
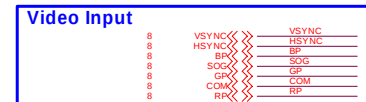
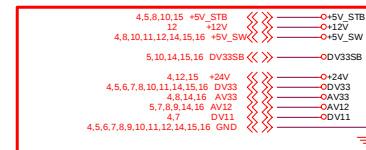
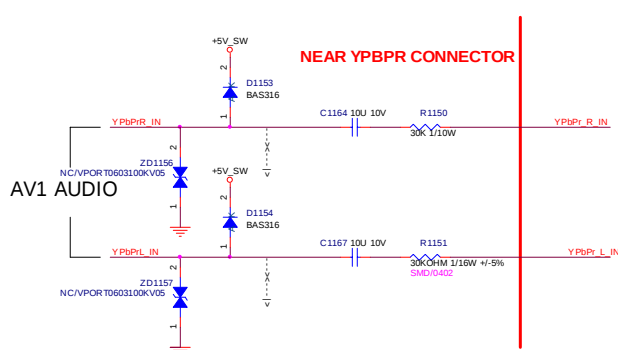
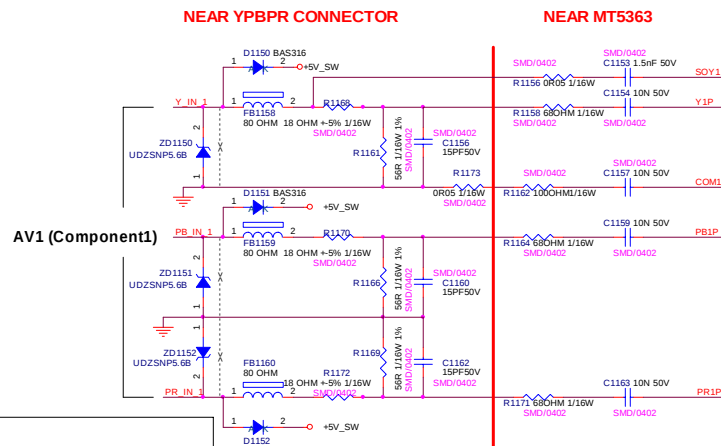
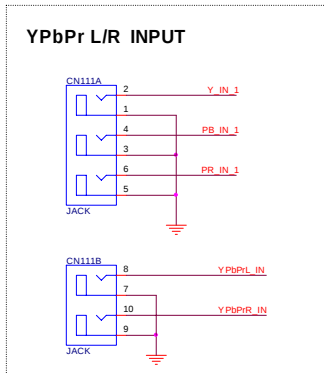
Audio Mute Control

13,15	OFF_MUTE	⟷	OFF_MUTE
13,15	HP_SC_MUTE	⟷	HP_SC_MUTE
13	SCART2_LEFT	⟷	SCART2_LEFT
13	SCART2_RIGHT	⟷	SCART2_RIGHT

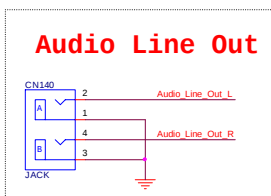
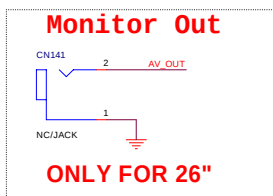
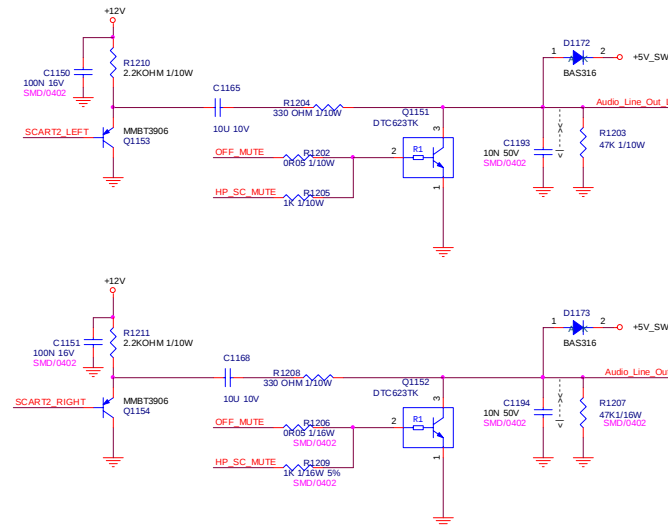
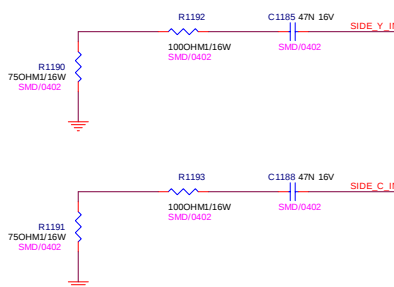
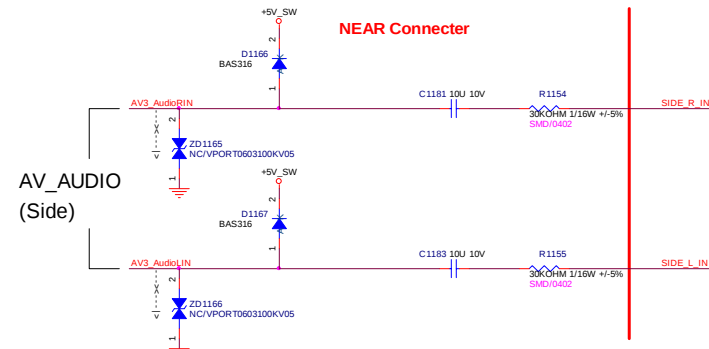
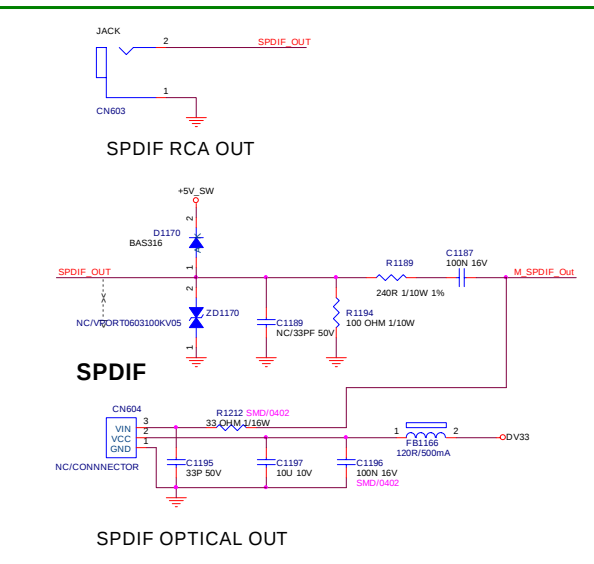
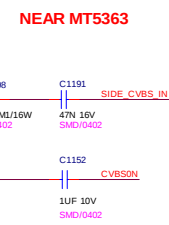
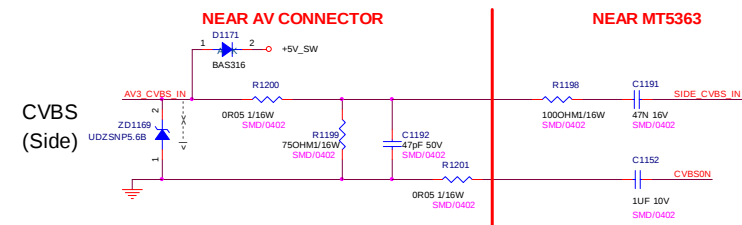


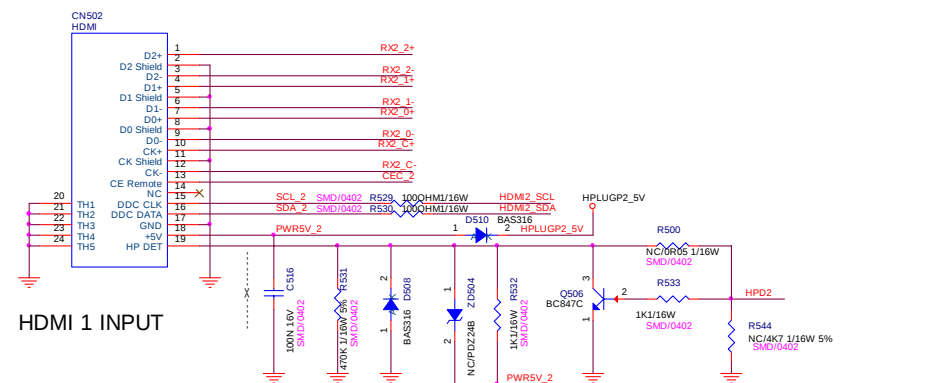
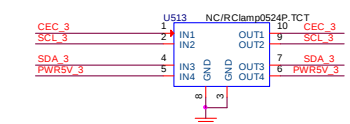
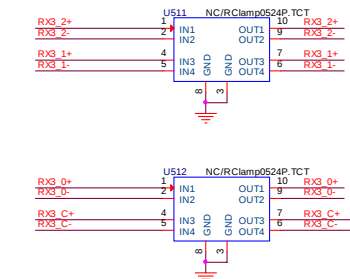
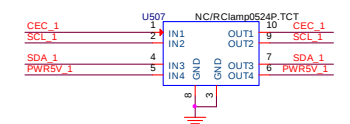
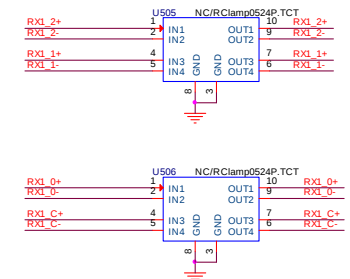
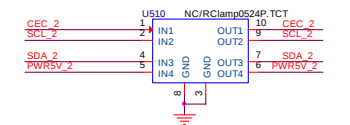
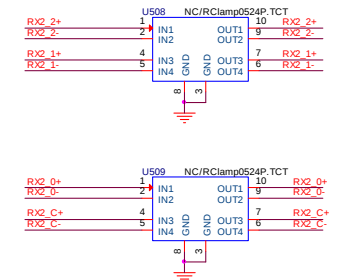
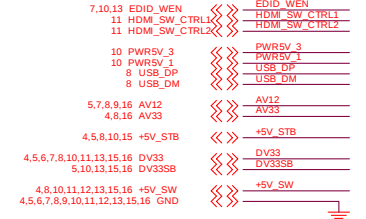
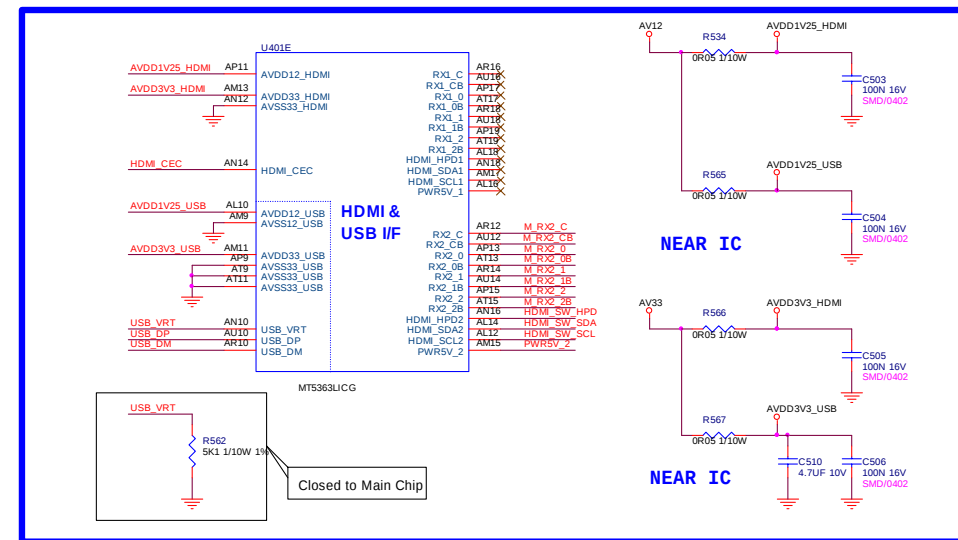
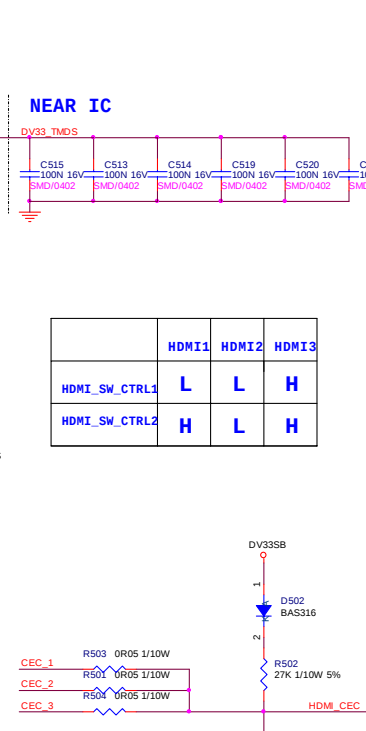
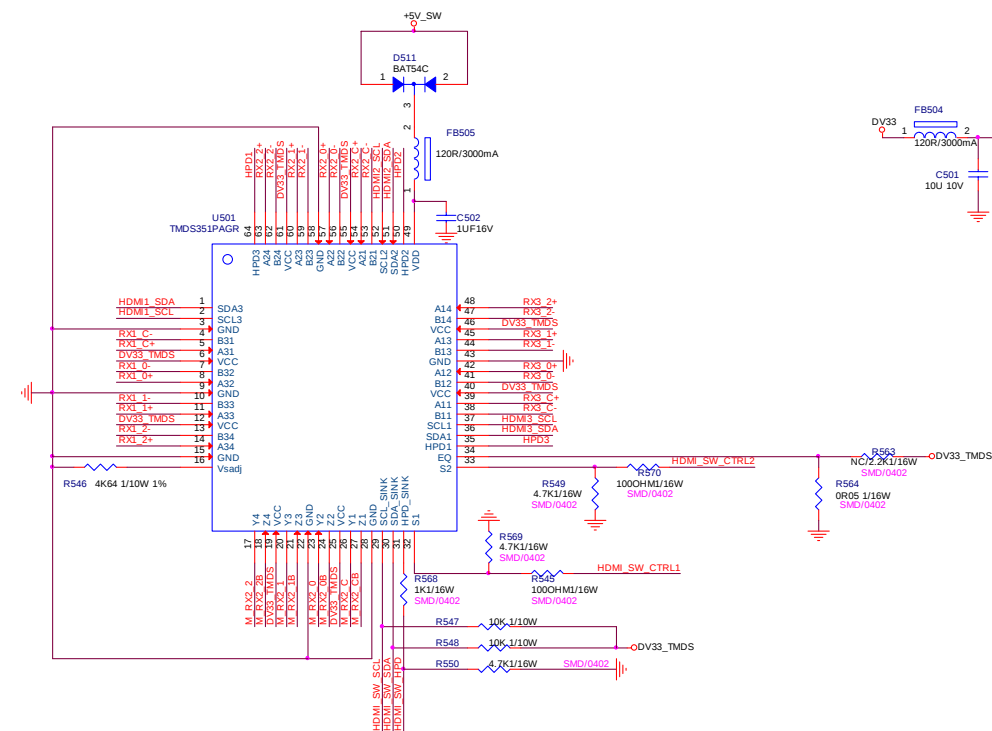
PANEL VCC	R1120	U108
12V	YES	NO
5V	NO	YES



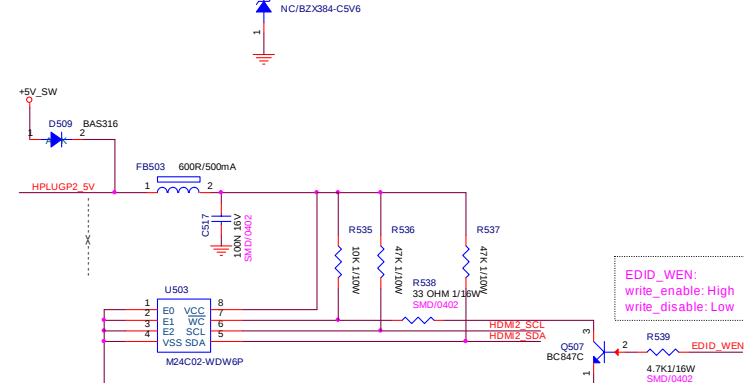


	SHARP	OTS
R1195	YES	NO
R1196	YES	NO
R1188	YES	NO
Q1157	YES	NO
R1213	NO	YES
R1214	NO	YES
VGA_RX_TX_EN	H: OFF L: ON	H: ON L: OFF

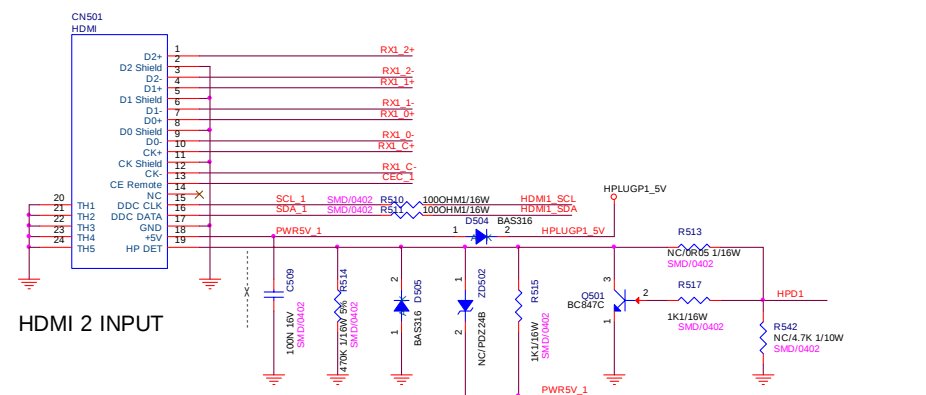




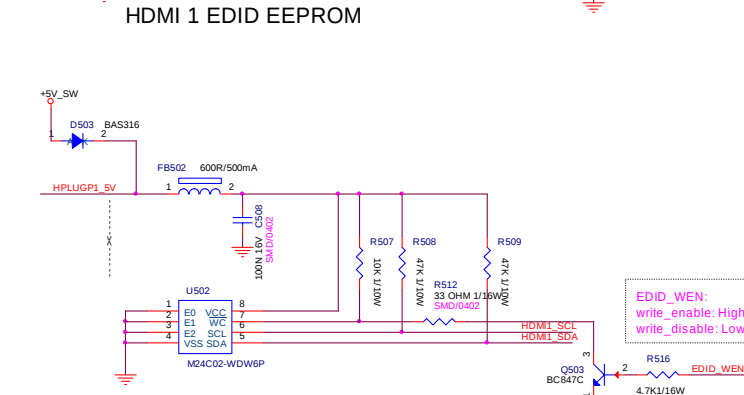
HDMI 1 INPUT



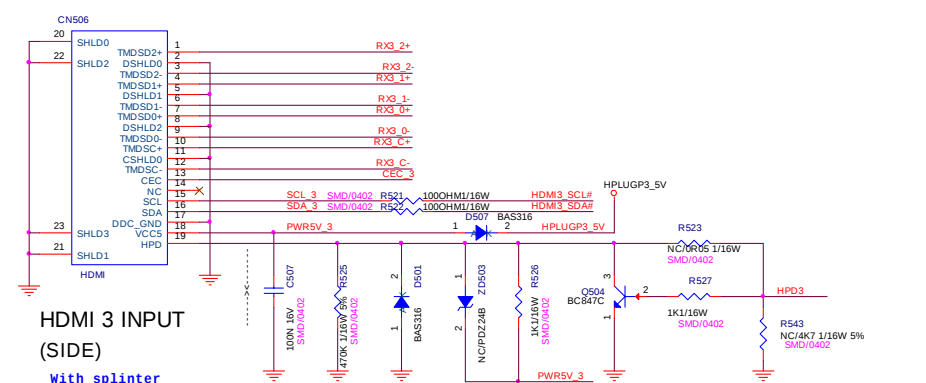
HDMI 1 EDID EEPROM



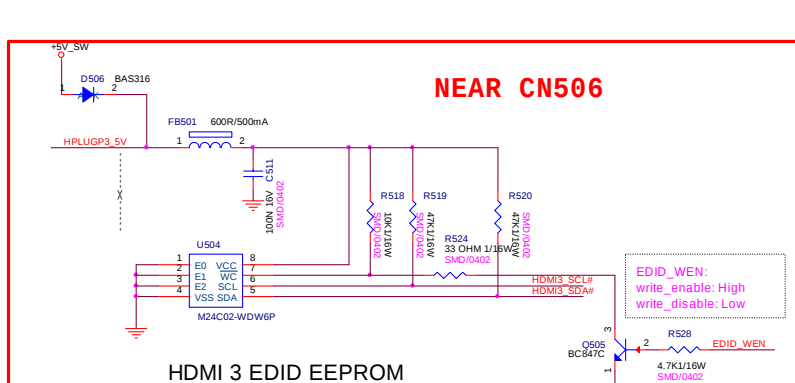
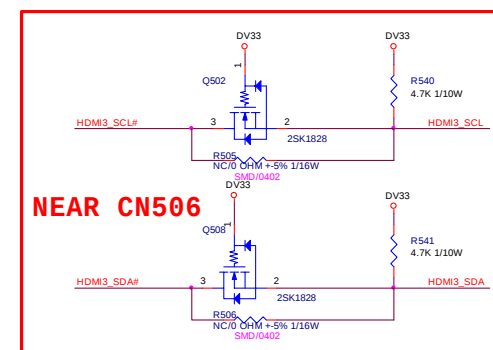
HDMI 2 INPUT



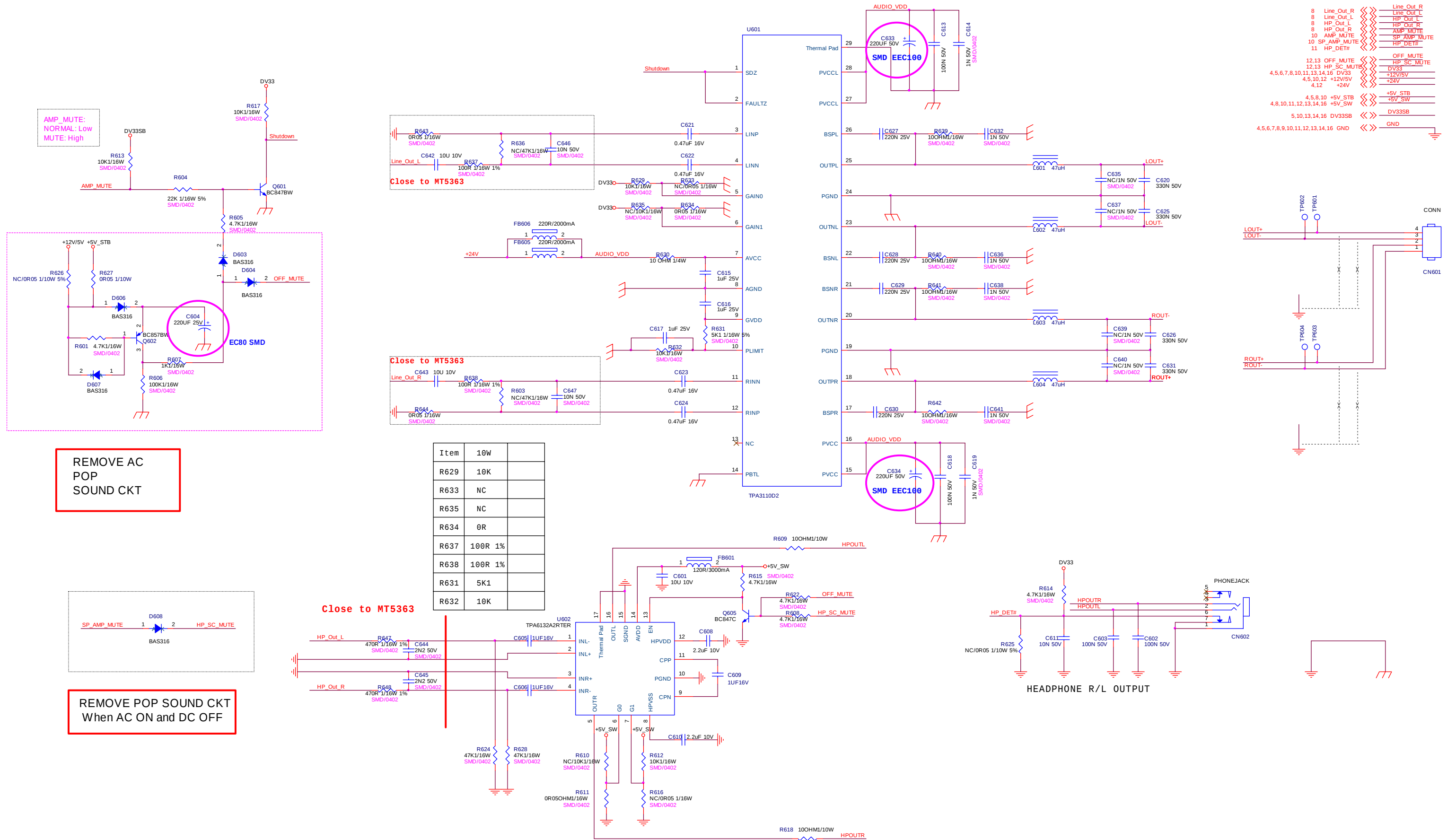
HDMI 2 EDID EEPROM



HDMI 3 INPUT
(SIDE)

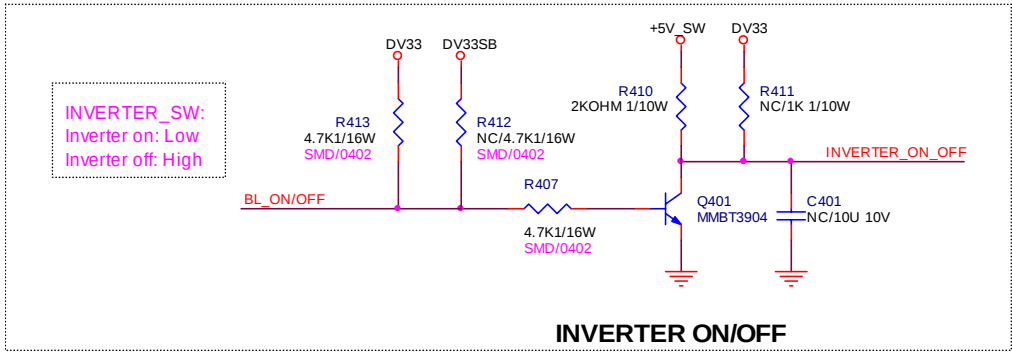
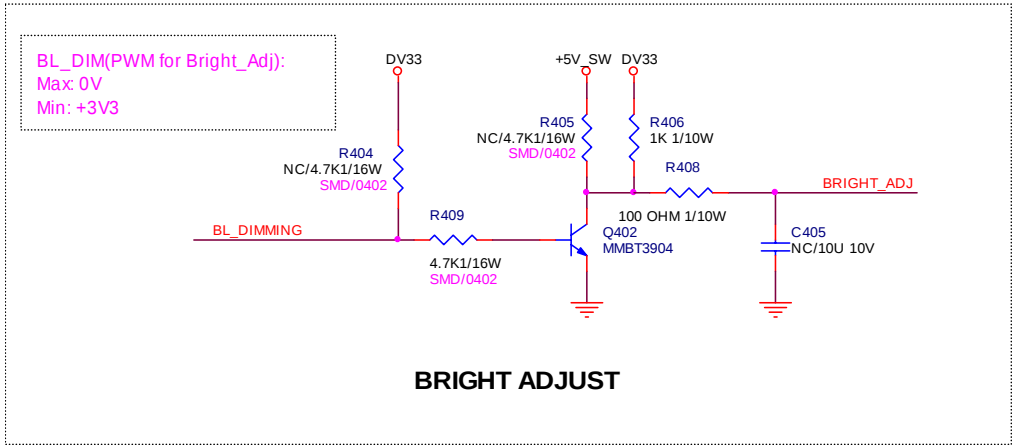
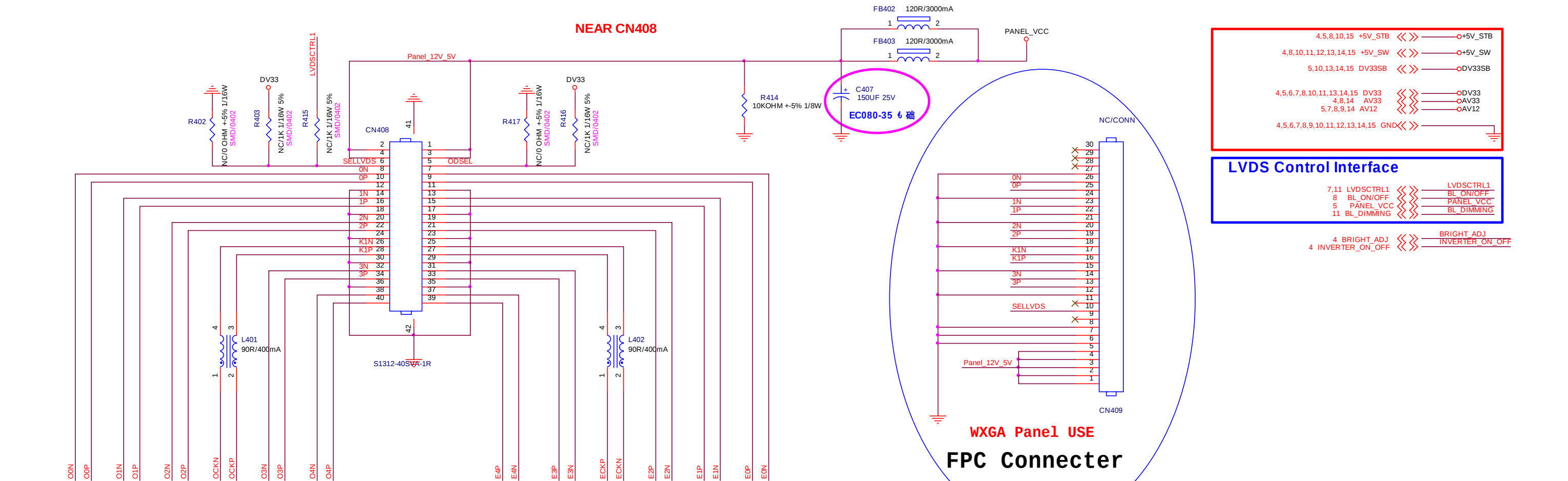
HDMI 3 EDID EEPROM
(SIDE)

NEAR CN506



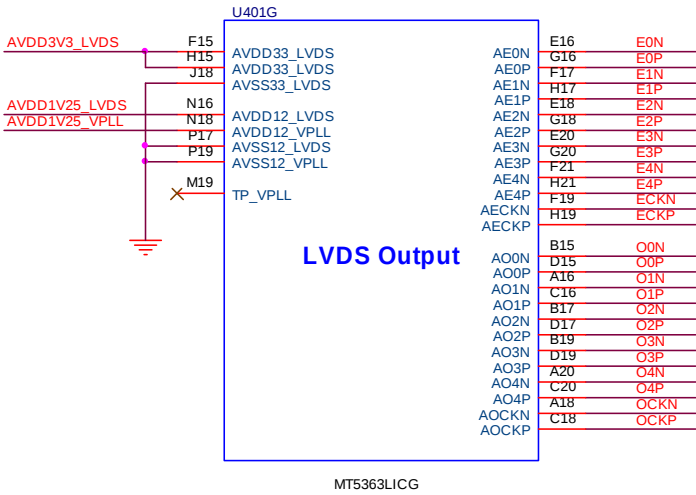
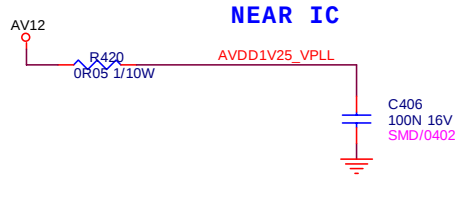
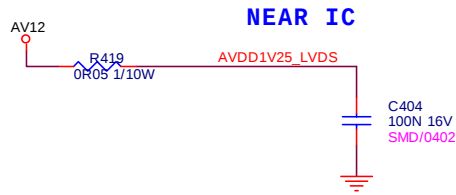
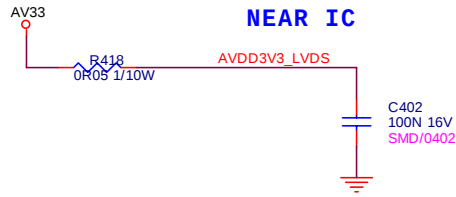
13. LVDS OUTPUT

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320



BL CONTROL	R408	R406	C405
PWM CONTROL	100R	1K	N/C
DC CONTROL	5K6	1K	10U

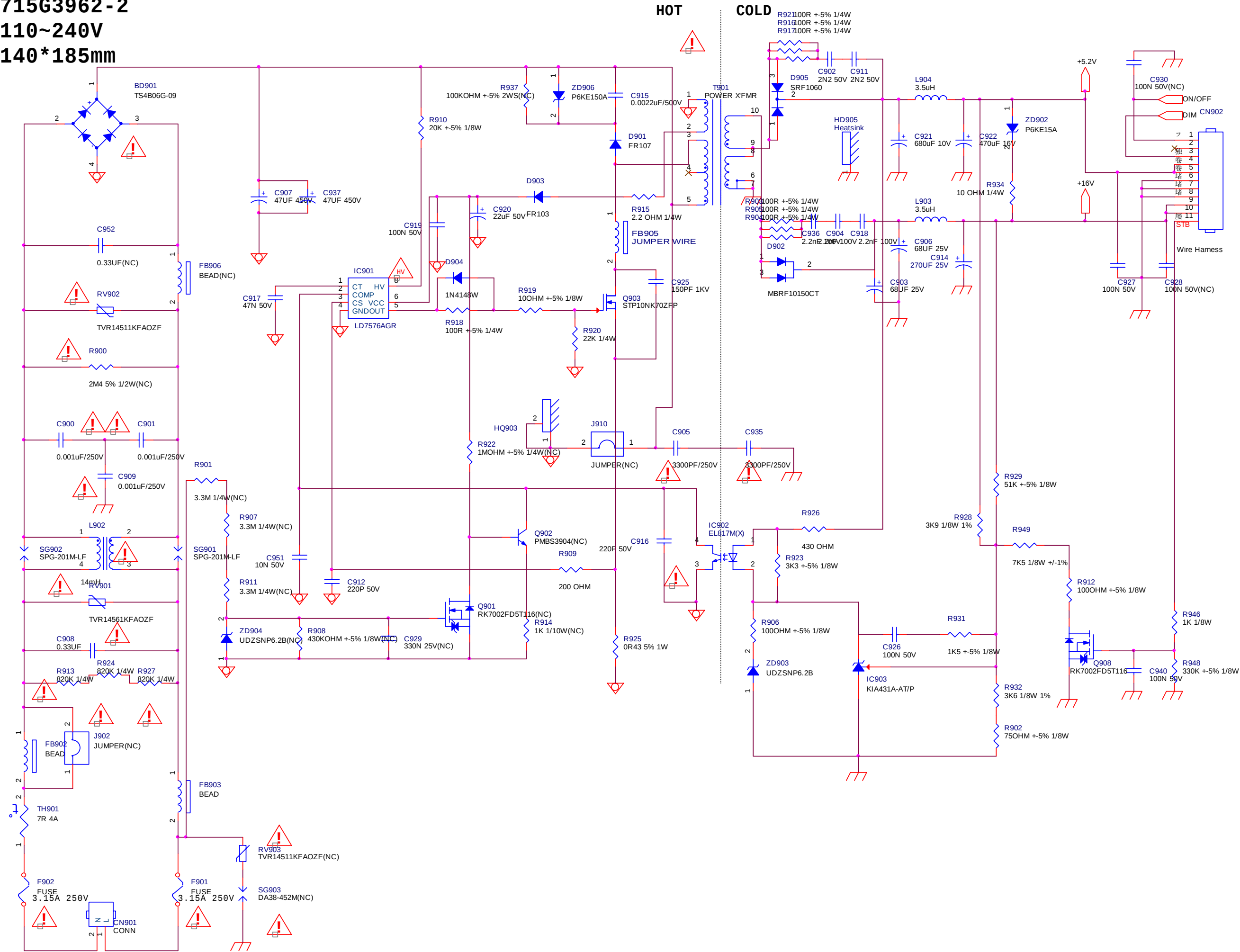
INVERTER ON/OFF	R410	R411
3V3	N/C	1K
5V	2K	N/C



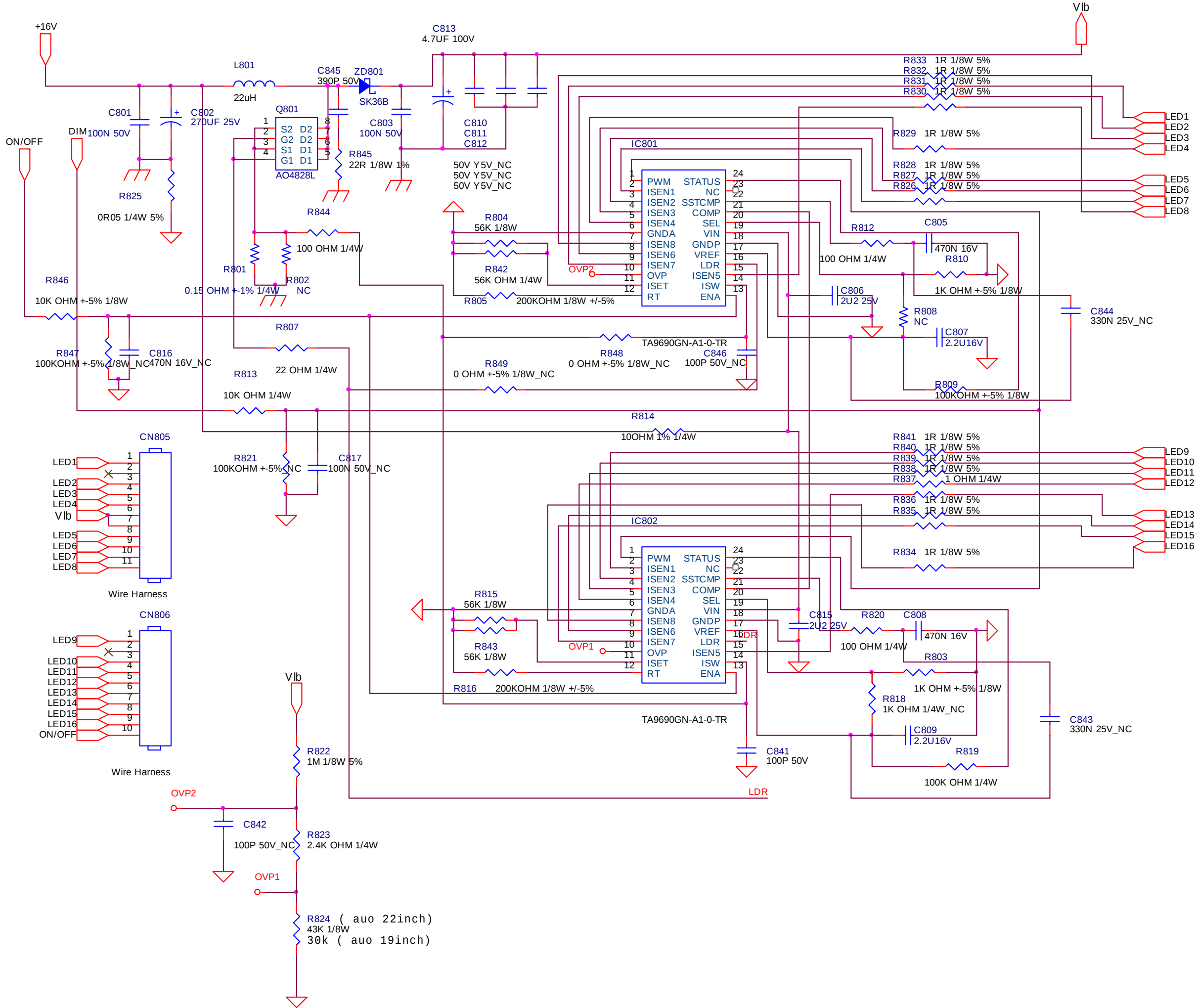
[2] POWER SCHEMATIC DIAGRAM (for 19" and 22")

1. POWER

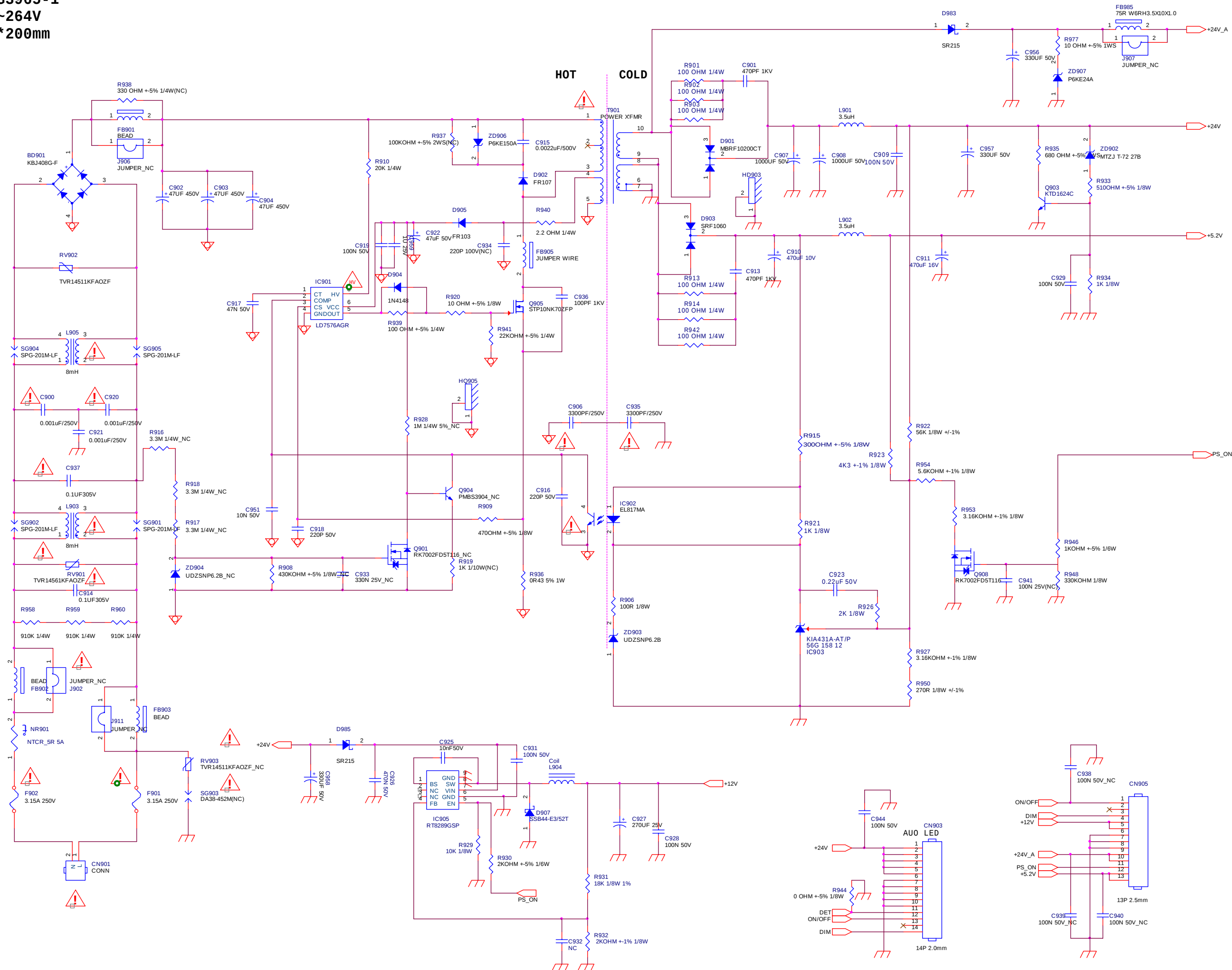
715G3962 - 2
110~240V
140*185mm



2. LED DRIVER

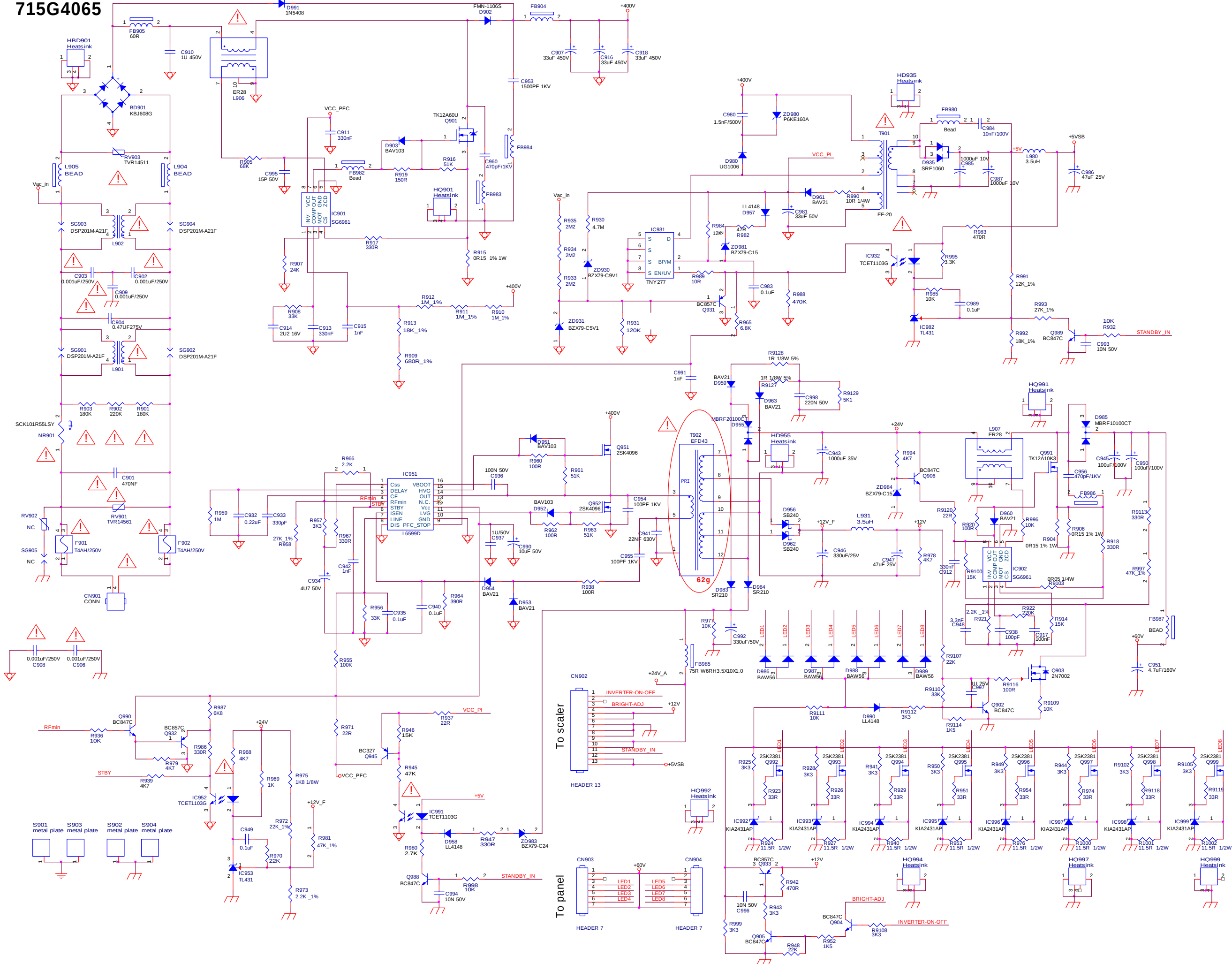


150*200mm



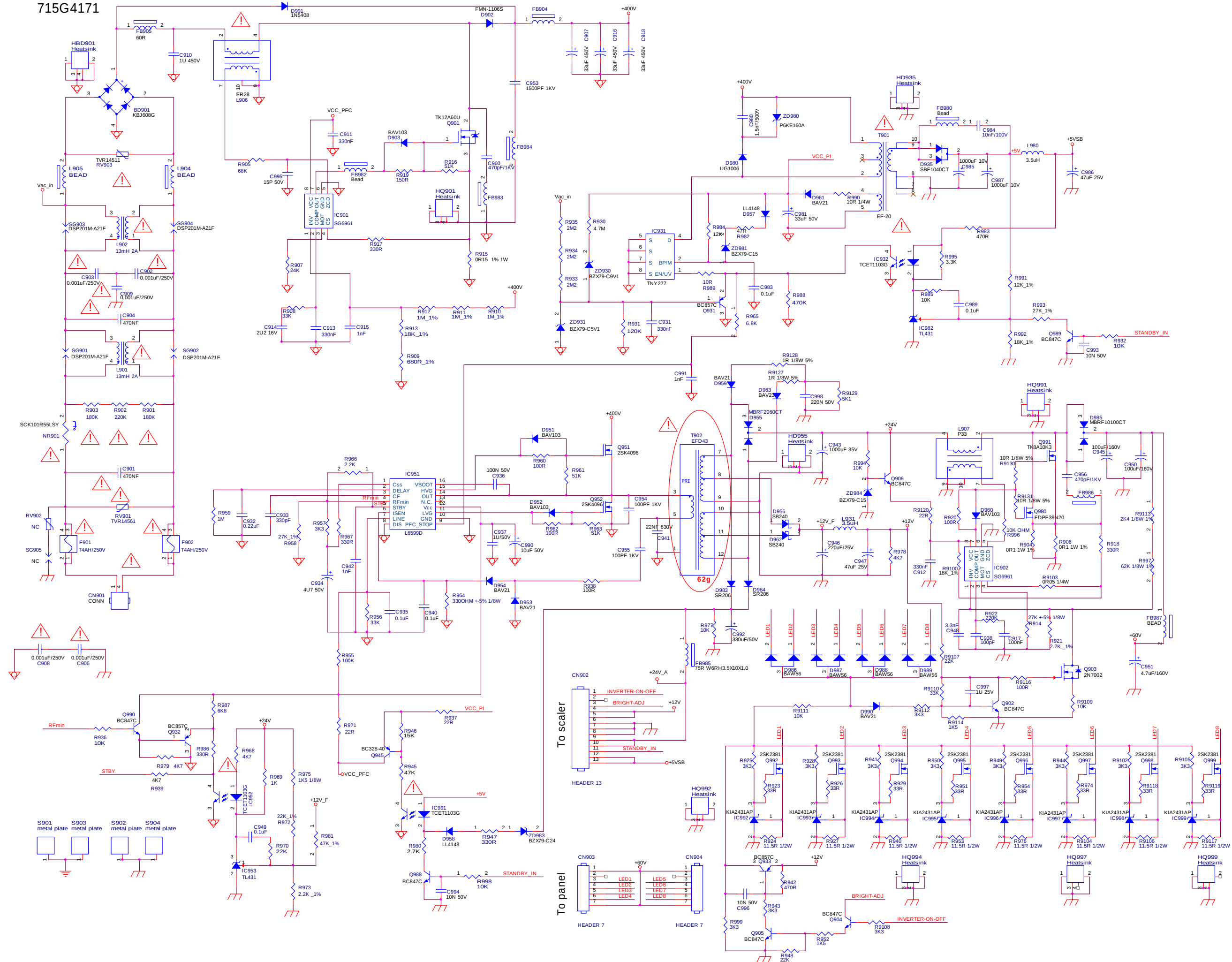
POWER SCHEMATIC DIAGRAM (for 32" and 37")

715G4065

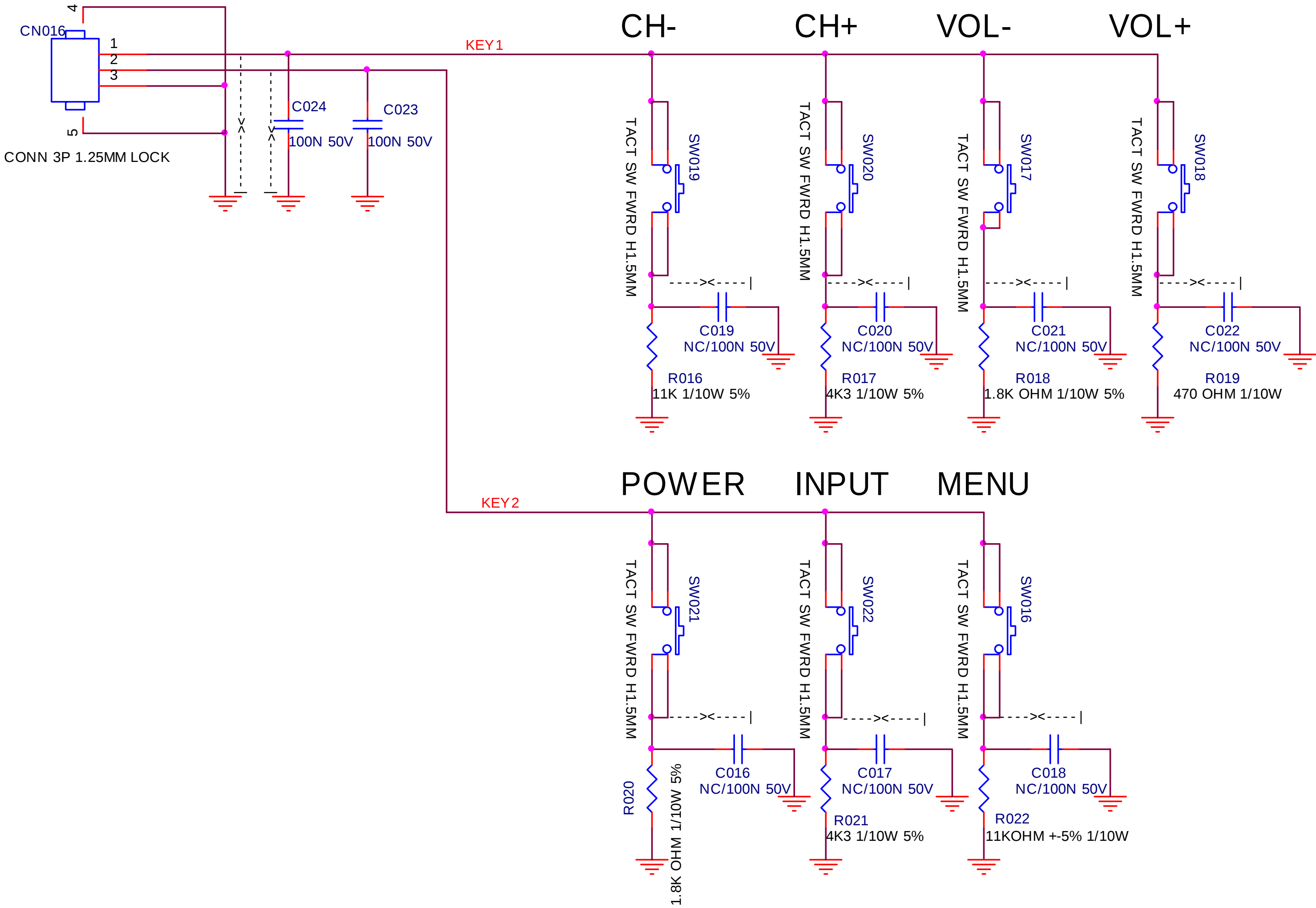


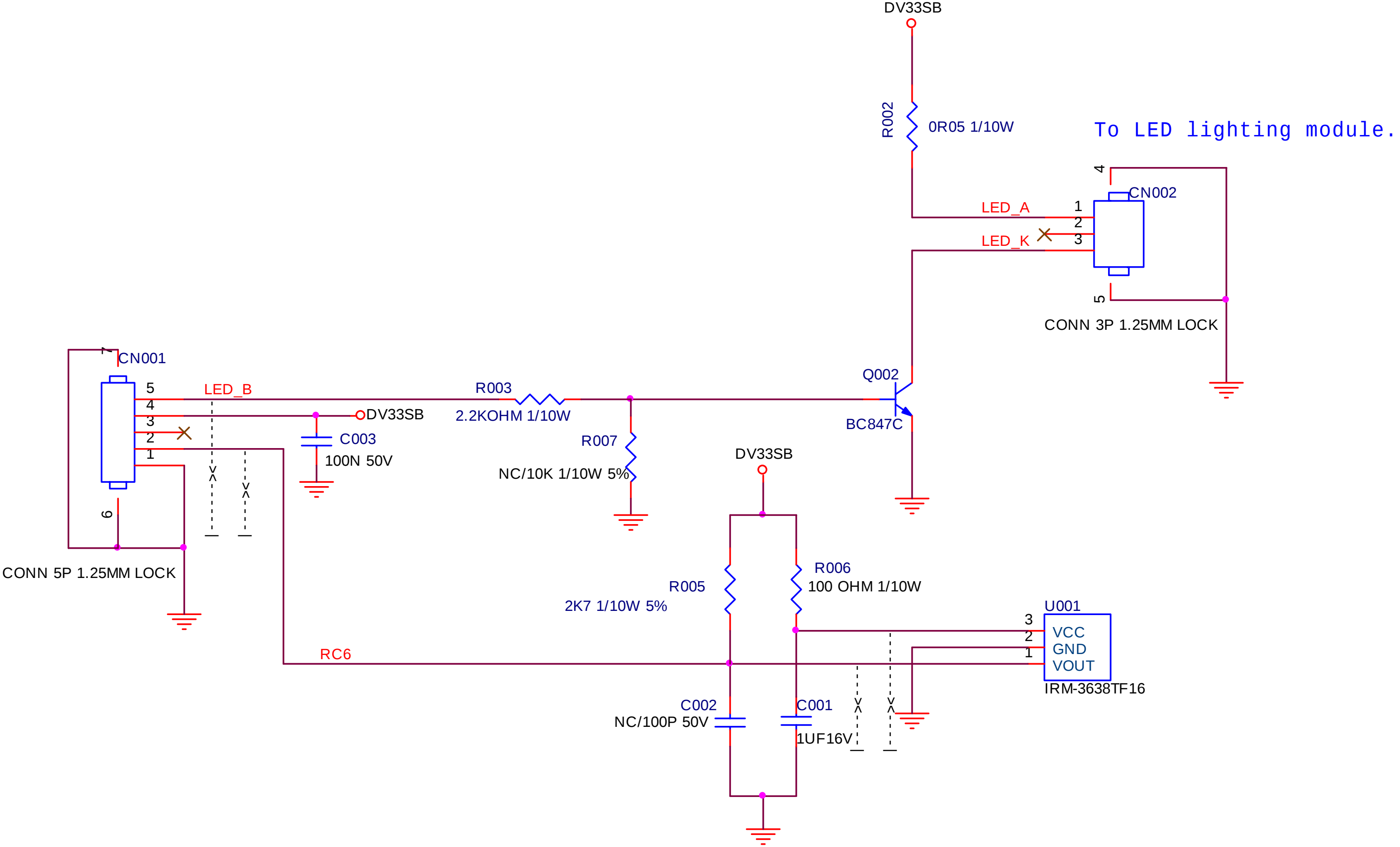
POWER SCHEMATIC DIAGRAM (for 42")

715G4171



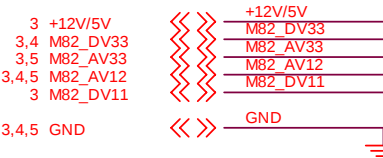
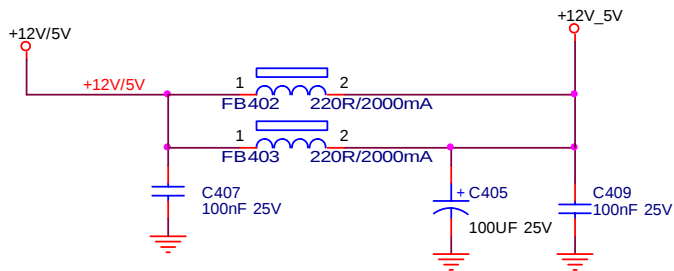
[3] KEY SCHEMATIC DIAGRAM



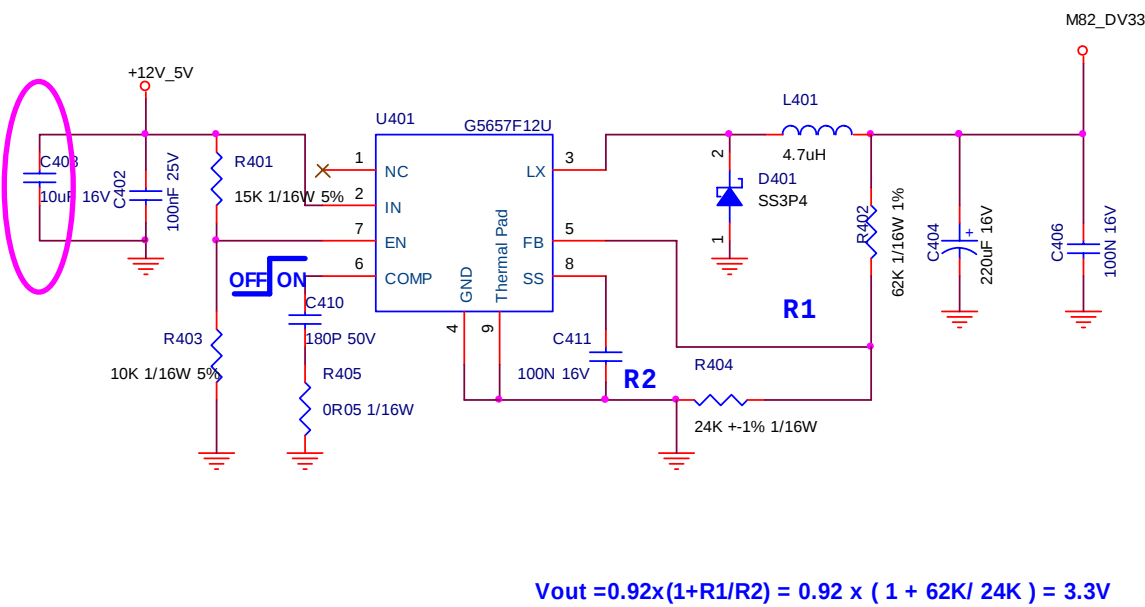


[5] MEMC SCHEMATIC DIAGRAM
1. MT8282 DC CONVERTER

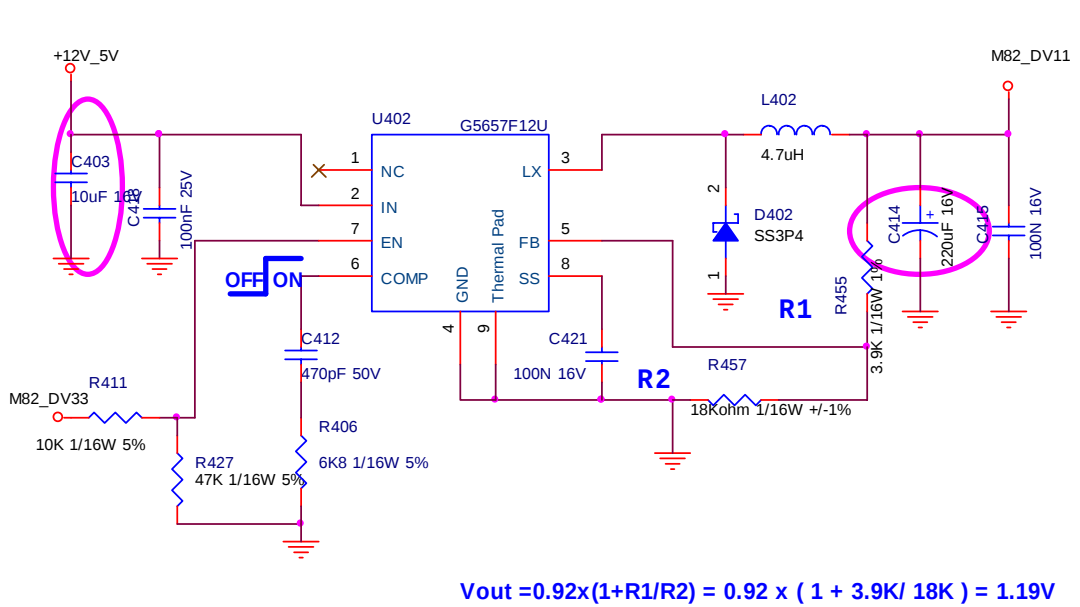
MEMC POWER VCC +12V/5V



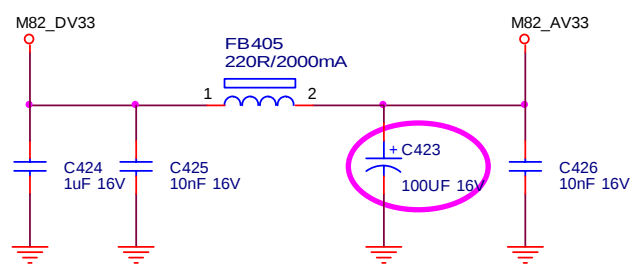
POWER M82_DV33



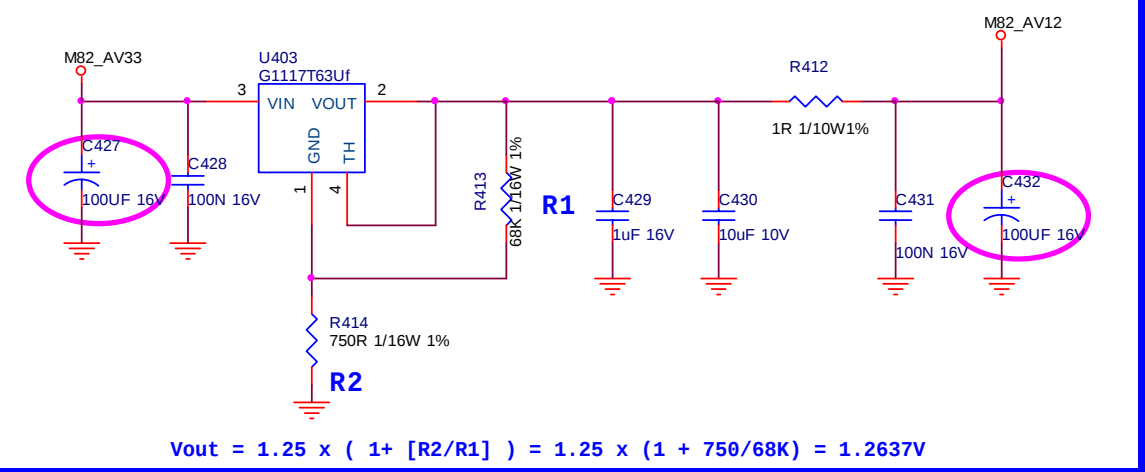
CORE POWER M82_DV11



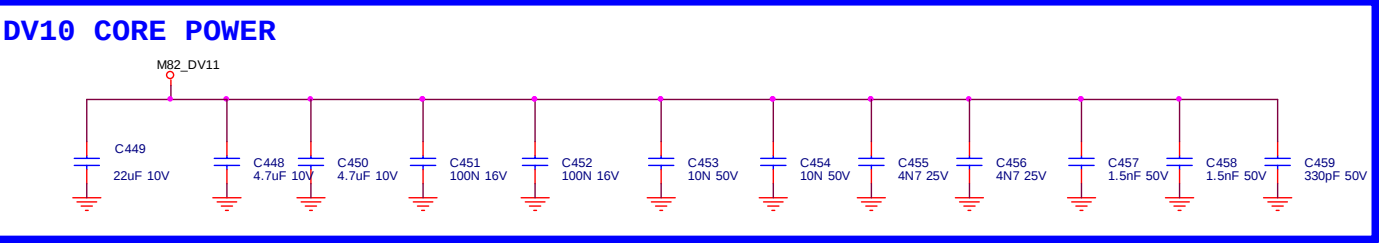
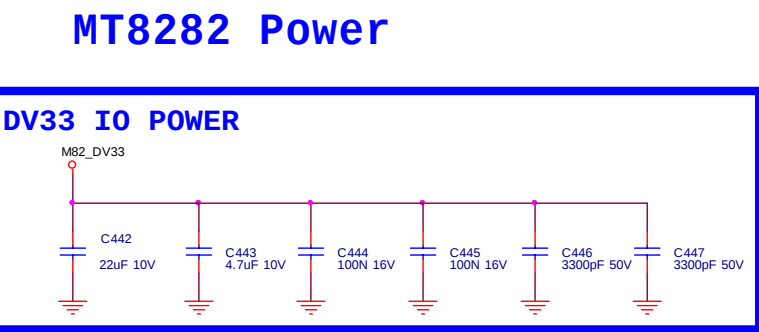
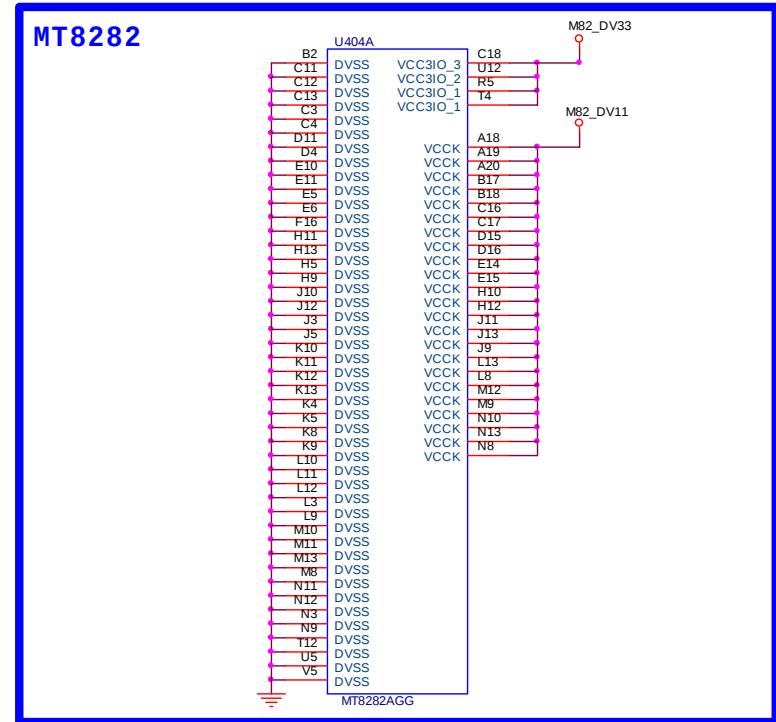
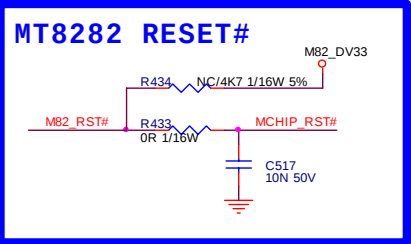
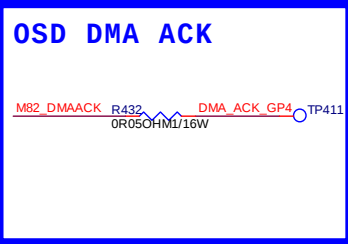
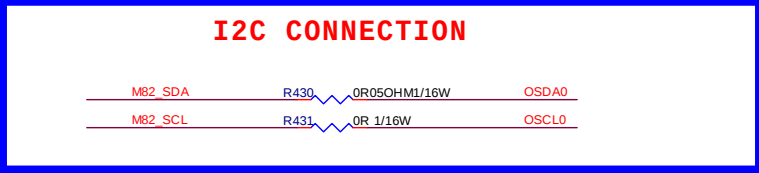
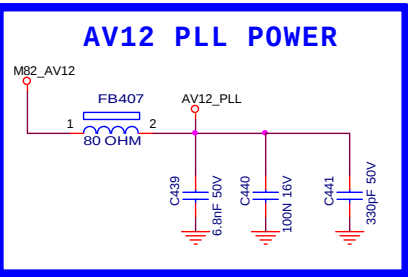
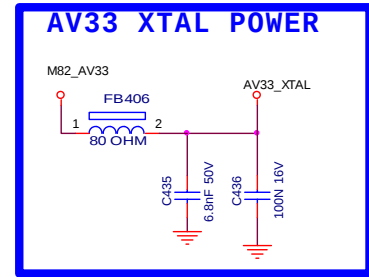
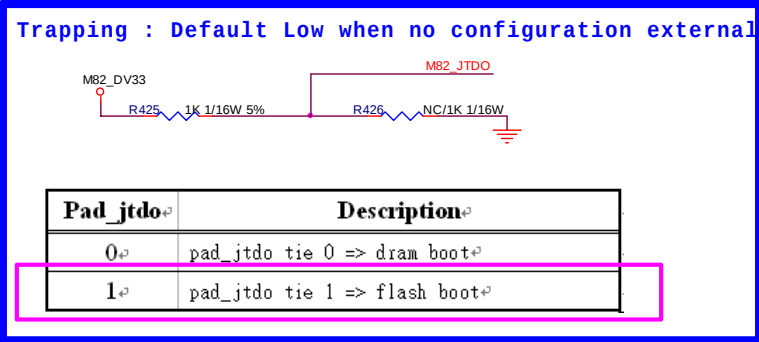
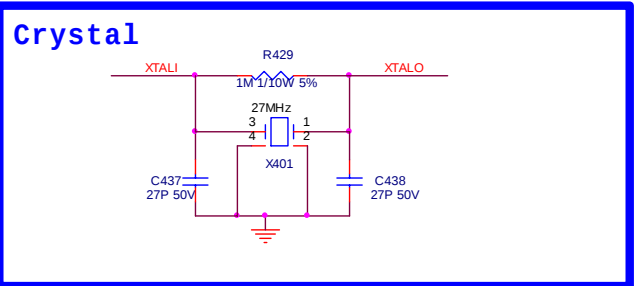
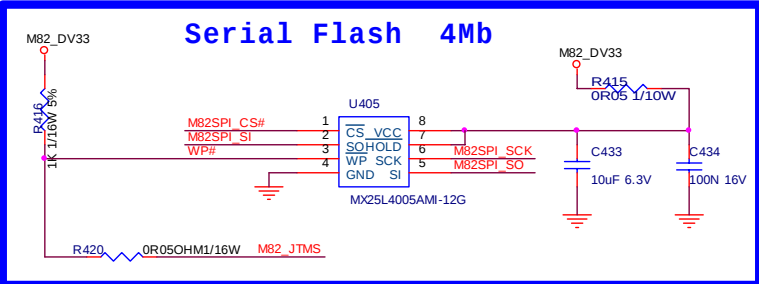
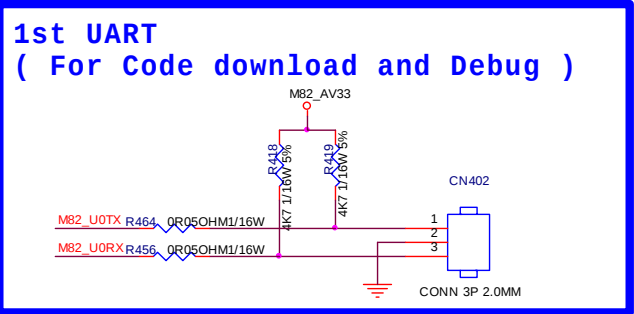
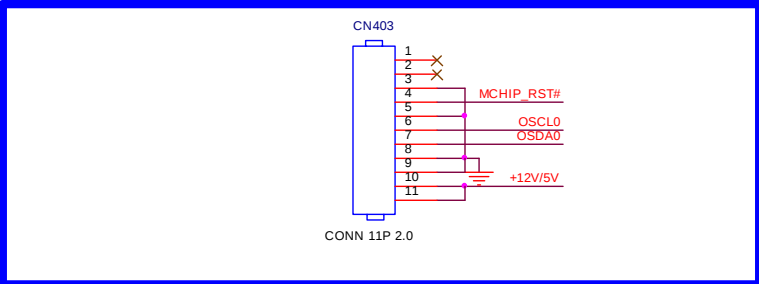
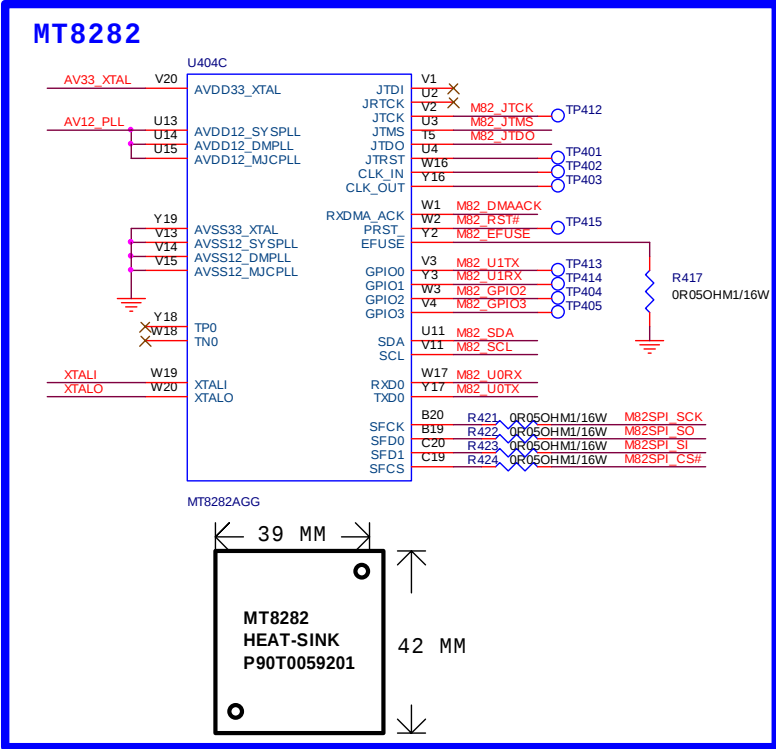
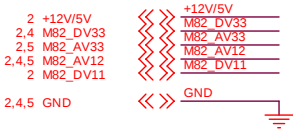
POWER M82_AV33



POWER M82_AV12



MT8282 Peripheral

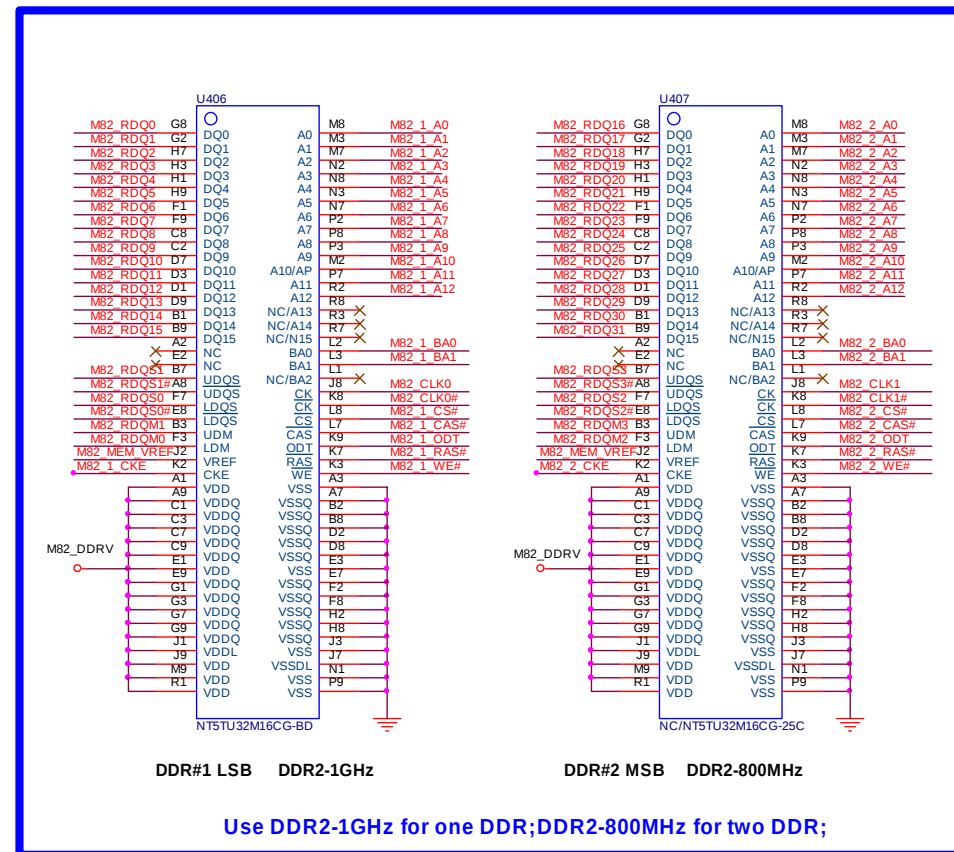


Damping for DDR#1 ADDR/CMD

M82 RA4	5	4	M82 1 A4
M82 RA6	6	3	M82 1 A6
M82 RA2	7	2	M82 1 A2
M82 RA3	8	1	M82 1 A3
RP401		56R 1/16W 5%	
M82 CAS#	5	4	M82 1 CAS#
M82 RA0	6	3	M82 1 A0
M82 RA8	7	2	M82 1 A8
M82 RA11	8	1	M82 1 A11
RP403		56R 1/16W 5%	
M82 RWE#	5	4	M82 1 WE#
M82 RCKE	6	3	M82 1 CKE
M82 BA1	7	2	M82 1 BA1
M82 BA0	8	1	M82 1 BA0
RP405		56R 1/16W 5%	
M82 RA3	5	4	M82 1 A3
M82 RA6	6	3	M82 1 A6
M82 RA7	7	2	M82 1 A7
M82 RA12	8	1	M82 1 A12
RP407		56R 1/16W 5%	
M82 RCS#	R442	56R 1/16W 5%	M82 1 CS#
M82 RAS#	R444	56R 1/16W 5%	M82 1 RAS#
M82 RA10	R461	56R 1/16W 5%	M82 1 A10
M82 RA1	R462	56R 1/16W 5%	M82 1 A1
M82 RODT	R463	56R 1/16W 5%	M82 1 ODT

Damping for DDR#2 ADD/RMS

M82 2 WE#	4	5	M82 RWE#
M82 2 CKE	3	7	M82 RCKE
M82 2 BA1	2	7	M82 RBA1
M82 2 BA0	1	8	M82 RBA0
RP402		56R 1/16W 5%	
M82 2 CAS#	5	4	M82 RCAS#
M82 2 A0	6	3	M82 RA0
M82 2 A8	7	2	M82 RA8
M82 2 A11	8	1	M82 RA11
RP404		56R 1/16W 5%	
M82 2 A12	5	4	M82 RA12
M82 2 A7	6	3	M82 RA7
M82 2 A5	7	2	M82 RA5
M82 2 A3	8	1	M82 RA3
RP406		56R 1/16W 5%	
M82 2 A4	5	4	M82 RA4
M82 2 A6	6	3	M82 RA6
M82 2 A2	7	2	M82 RA2
M82 2 A9	8	1	M82 RA9
RP408		56R 1/16W 5%	
M82 2 CS#	R443	56R 1/16W 5%	M82 RCS#
M82 2 A1	R445	56R 1/16W 5%	M82 RA1
M82 2 RAS#	R459	56R 1/16W 5%	M82 RRAS#
M82 2 ODT	R459	56R 1/16W 5%	M82 RODT
M82 2 A10	R460	56R 1/16W 5%	M82 RA10



Use DDR2-1GHz for one DDR;DDR2-800MHz for two DDR;

DRAM Power M82_DDRV

The schematic diagram illustrates the M82_DDRV circuit. It features a power supply M82_DV33 connected to a resistor FB408 (220R/2000mA). The output of the resistor is connected to the VIN pin of the U408 G1084-18 voltage regulator. The regulator's GND pin is connected to ground, and its VOUT pin is connected to the M82_DDRV output. Several capacitors are used for decoupling: C472 (10uF 10V) is connected to the input of the regulator; C474 (100N 16V) is connected to the input; C475 (1uF 16V), C476 (100N 16V), and C477 (10Hf 16V) are connected to the output; and C473 (100uF 16V) is connected to the output. The output M82_DDRV is also connected to ground.

CAPS for DRAM IO Power (Beneath the MT8282)

M82_DDRV

C460 100uF 16V

C461 10uF 10V

C462 100N 16V

C463 100N 16V

C464 6.8nF 50V

C465 6.8nF 50V

C466 330pF 50V

C467 330pF 50V

C468 330PF 50V

C469 1.5nF 50V

C470 1.5nF 50V

C471 1.5nF 50V

M82_DDRV

C478 10N 50V

C479 10N 50V

MEM_VREF for DRAM

The diagram illustrates the MEM_VREF for DRAM circuit. It features a voltage divider formed by resistors R446 and R447, both rated at 1K 1/16W 1%. The input signal M82_DDRV is applied across these resistors. The output of the divider, taken from the junction between R446 and R447, is connected to a parallel combination of capacitors. Specifically, this junction is connected to C491 (100N 16V) and C492 (4.7uF 10V) to ground, and also to C493 (100N 16V) and C494 (100N 16V) to ground. The final output of the circuit is M82_MEM_VREF, which is connected to the junction between R447 and C493.

CAPS for DRAM IO Power (Beneath the DDR#1)

M82_DDRV

C490 NC/470µF 10V

C481 100nF 16V

C482 100nF 10V

C483 6.8nF 5V

C484 6.8nF 5V

C485 1.5nF 50V

C486 1.5nF 50V

C487 330pF 50V

C488 330pF 50V

C489 10nF 50V

C490 10nF 50V

MB2_AV12

10k

100nF

U1A

U1B

10k

100nF

MB2_AV12_MEMPLL

CAPS for DRAM IO Power (Beneath the DDR#2)

MB2_DDRV

C496 100uF 16V

C497 100N 16V

C498 100N 16V

C499 6.8nF 50V

C500 6.8nF 50V

C501 1.5nF 50V

C502 1.5nF 50V

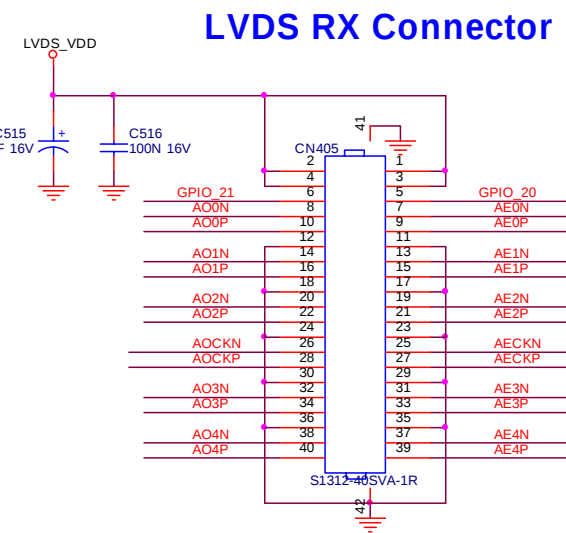
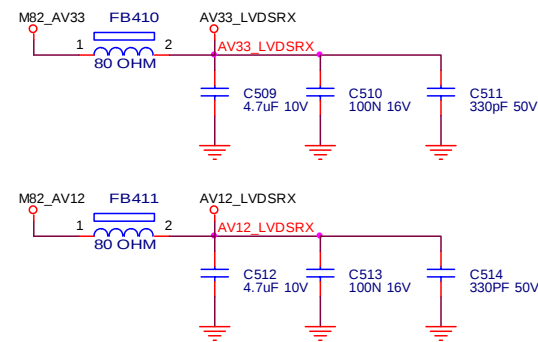
C503 330PF 50V

C504 330PF 50V

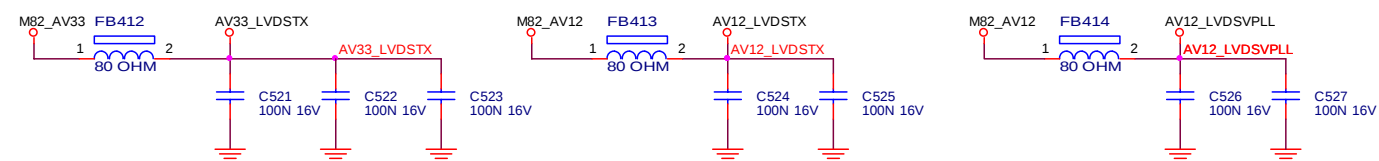
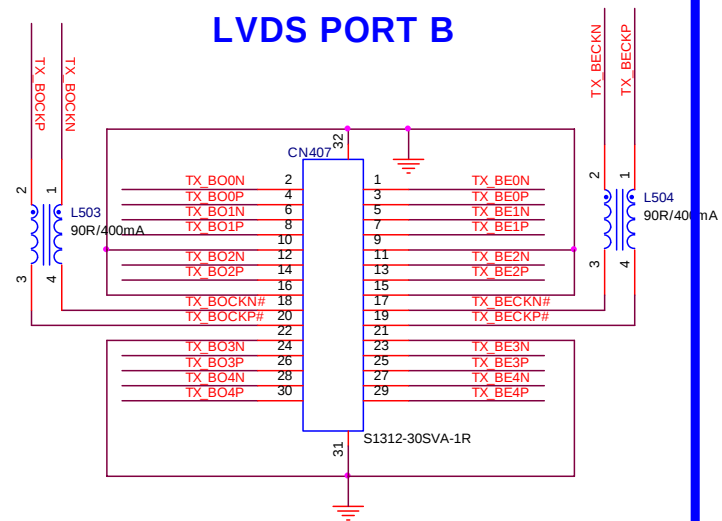
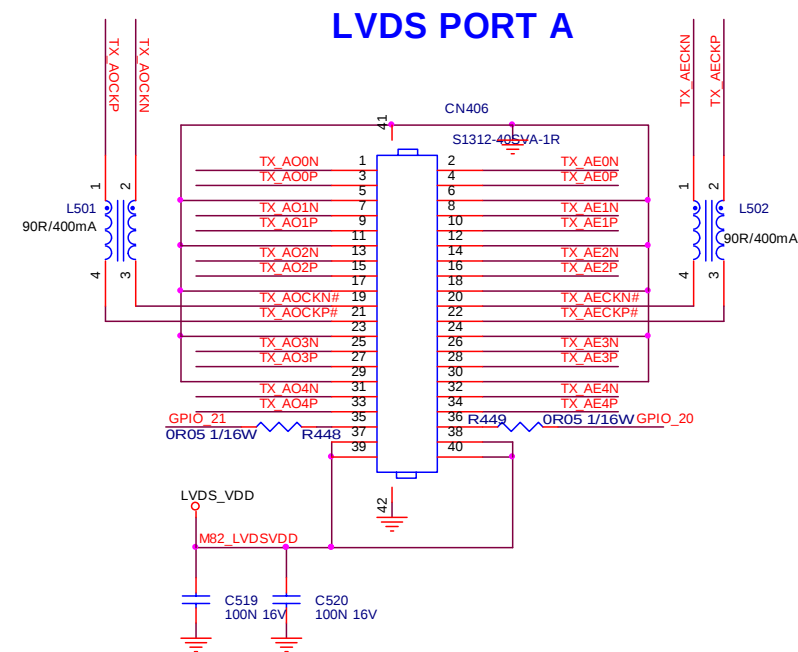
C505 10N 50V

C506 10N 50V

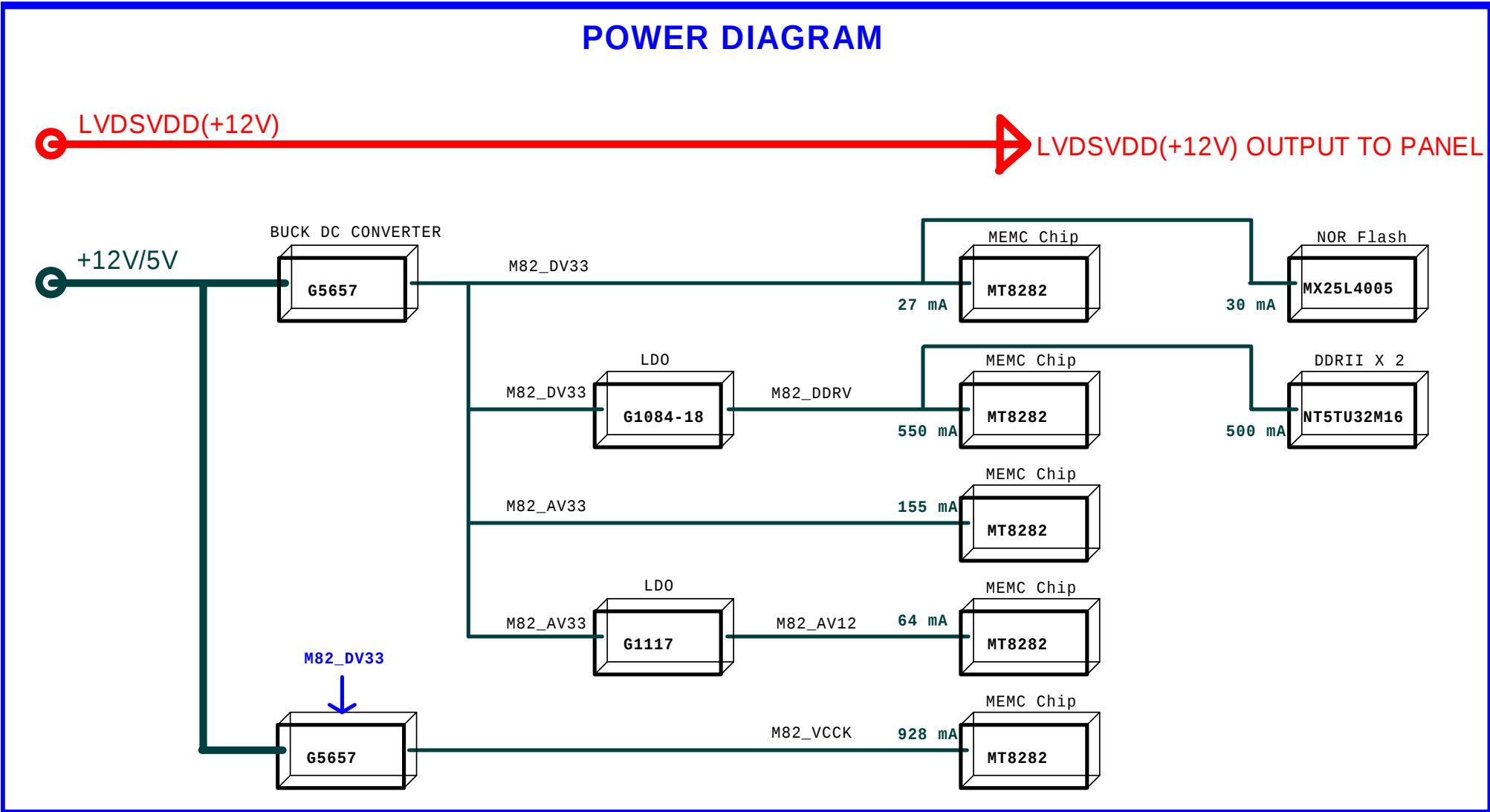
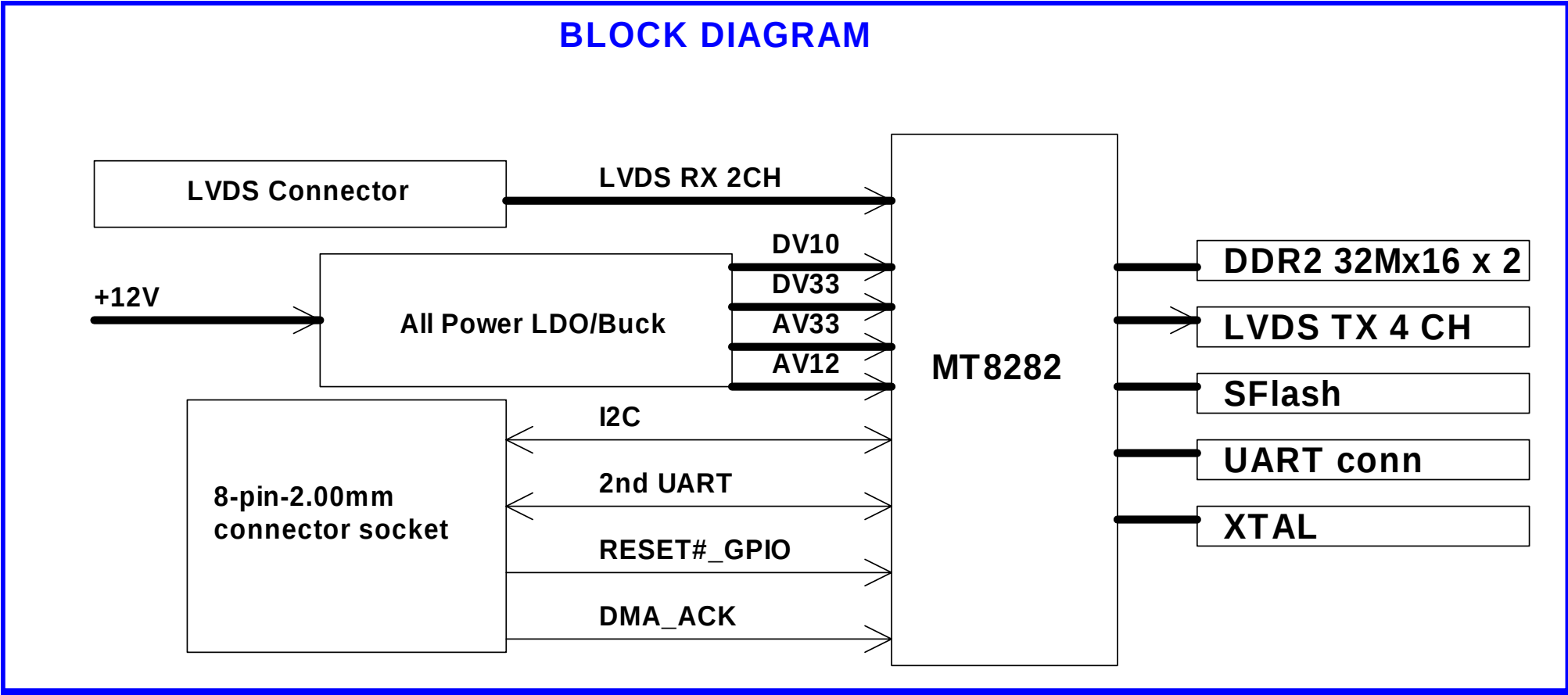
LVDS RX

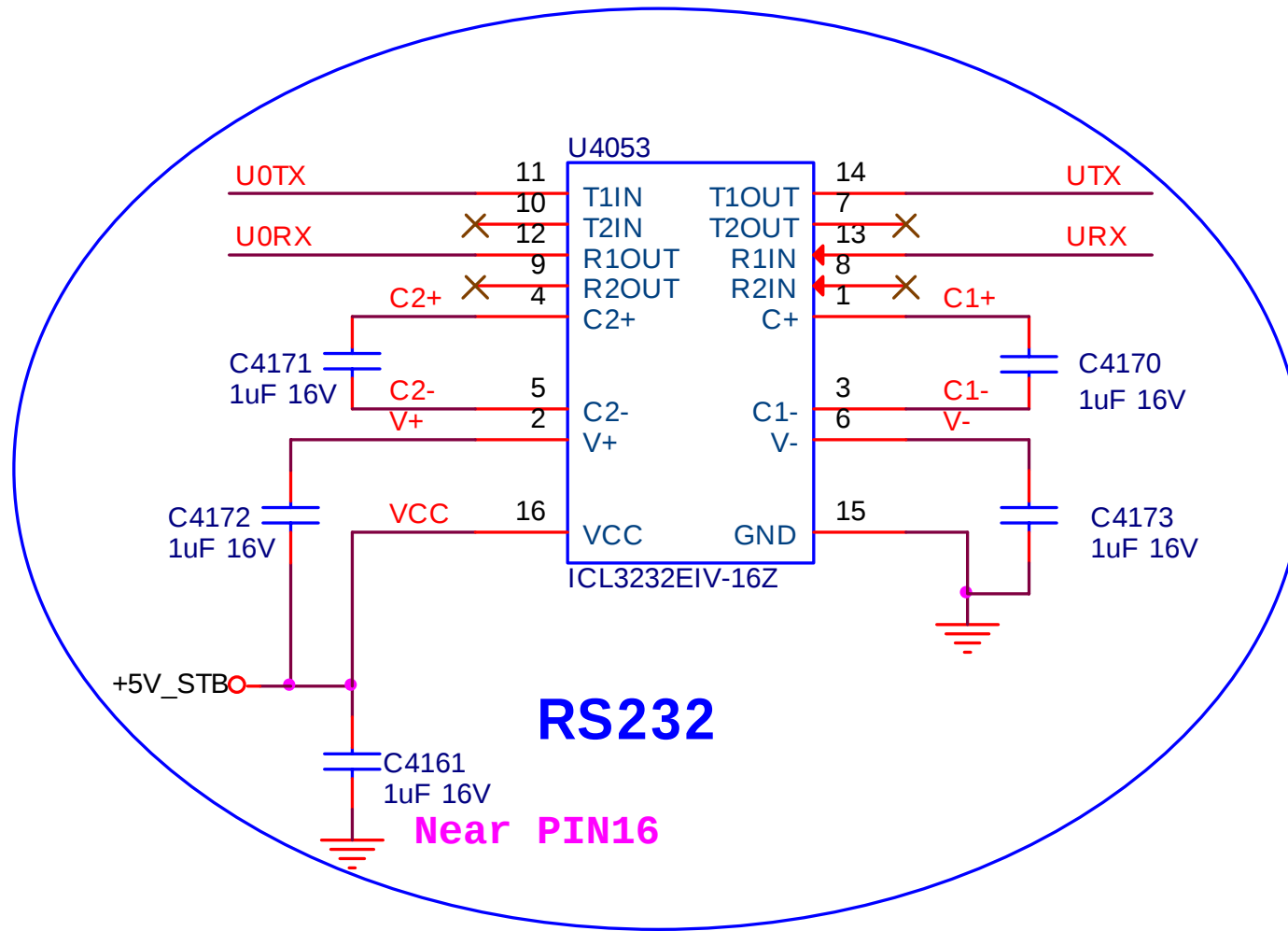
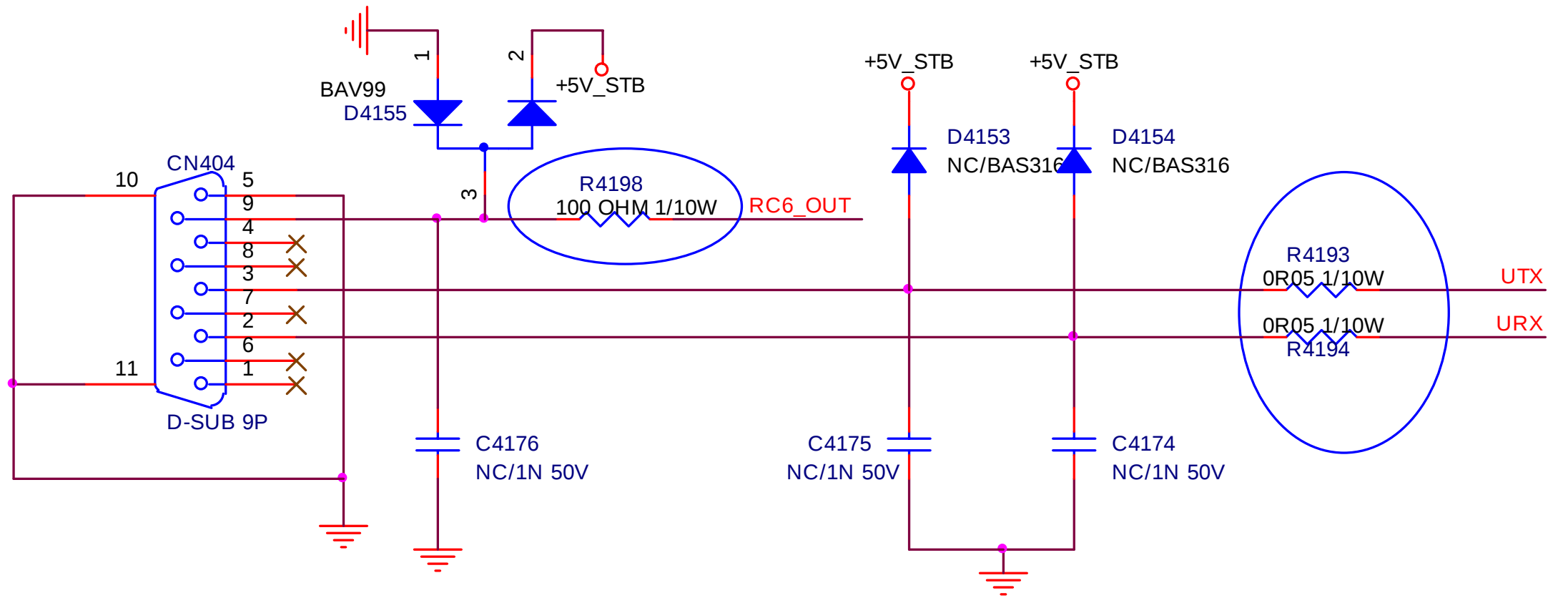
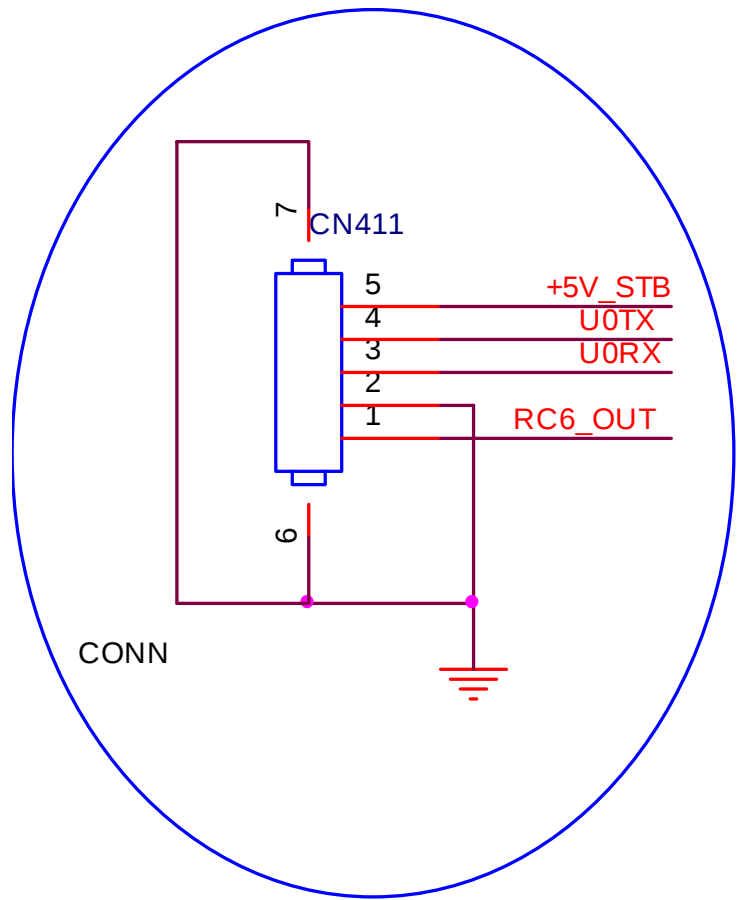


LVDS TX

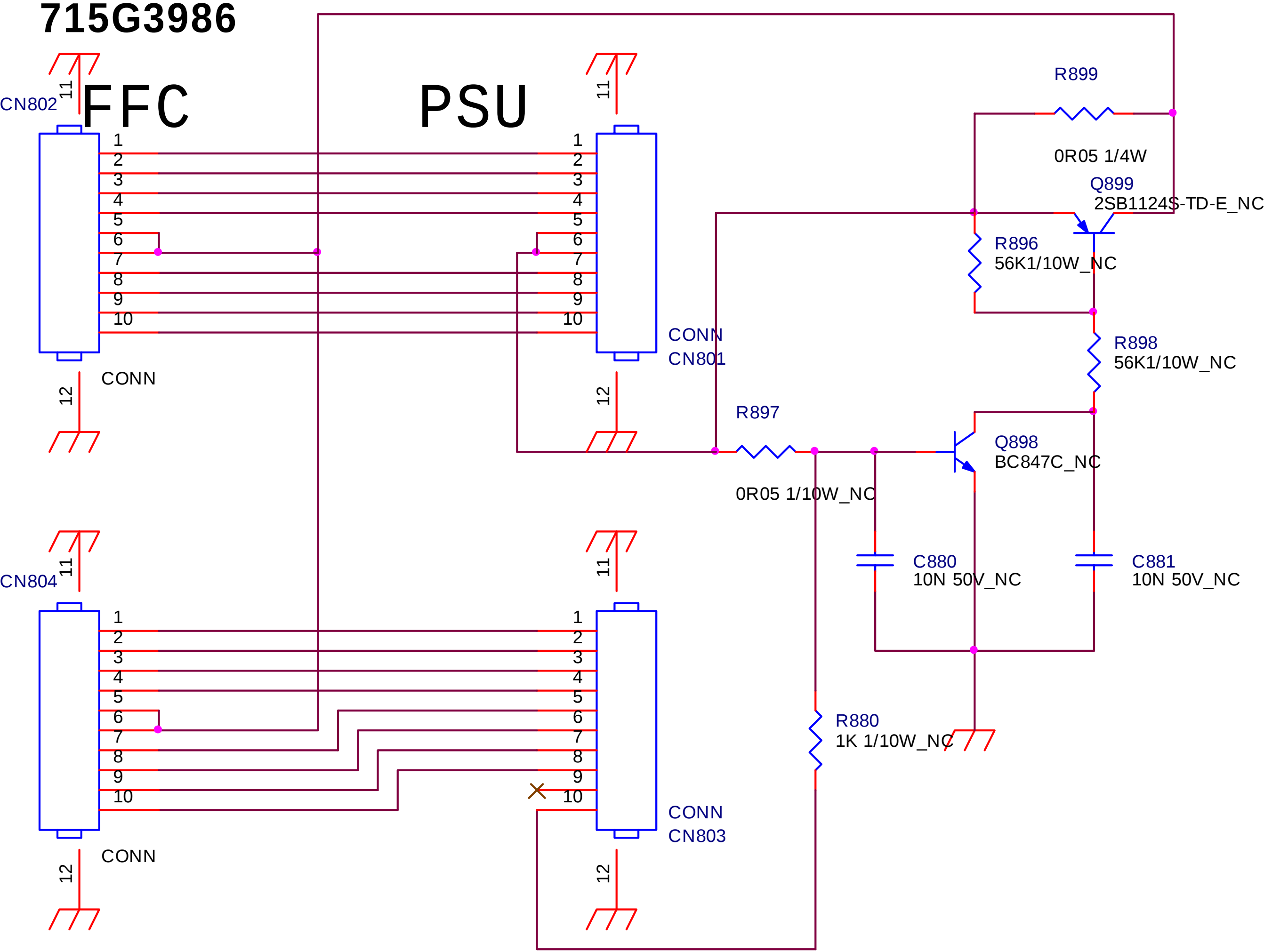


5. BLOCK & POWER DIAGRAM



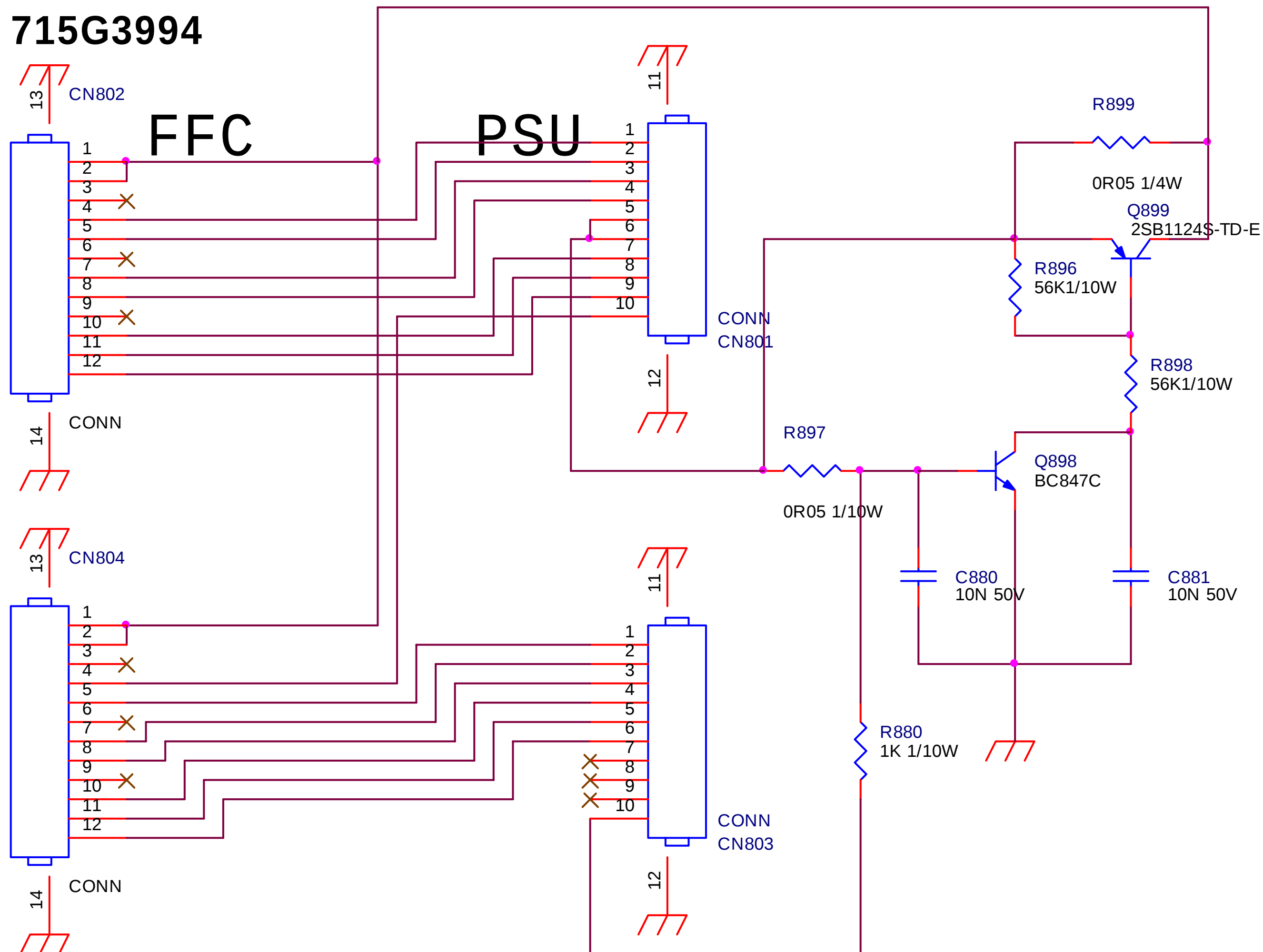


[7] Convert SCHEMATIC DIAGRAM (for 19" and 22" AUO panel)



FFC

PSU



CHAPTER 9. PARTS GUIDE

[1] SPARE PARTS LIST

Model: LC-22LE320E(AUO)(E22AA2NBWLXPNS)				
Item	TPV Code Number	SHARP 13NC	Description	Quantity
30	705TZA3460A	9JR7050000145	BEZEL ASSY	1
35	Z40G000284307A	9JR4000000093	LABEL_POP	1
40	705TZA3462A	9JR7050000147	REAR COVER ASSY	1
50	705TZA3463A	9JR7050000148	BASE ASSY	1
54	Z12T 63007	9JR1200000006	PHONE RUBBER	7
55	P01G0022 1	9JR0100000060	SCREW(40x30L)	3
56	Q45T 99609 79	9JR4500000013	EPE COVER FOR BASE	1
57	OQ1G 130 6120	9JR0100000057	SCREW (T3X6)	7
60	705TZA3461A	9JR7050000146	KEY COVER ASSY	1
91	P34T0452PAT 1T0100	9JR3400000011	BASE_NECK	1
92	0M1G 940 10 47 CR3	9JR0100000055	SCREW	4
93	OQ1T 930 8120	9JR0100000059	SCREW	9
96	0M1T 330 6120	9JR0100000056	SCREW 42A9930014	1
126	Z40G 22084301A	9JR4000000091	RATING LABEL	1
127	P40TA00081328A	9JR4000000004	FAMILY SHEET- SERVICE	1
130	Z40G000184316A	9JR4000000092	CARTON LABEL	1
135	705TZA4106A	9JR7050000149	DFU ASSY(Western Europe)(Eastern Europe)	1
136	705TZA4107A	9JR7050000150	DFU ASSY(North Europe)	1
449	705TZA4403A	9JR7050000151	Carton Assy	1
456	050G 600 2	9JR5000000004	HANDLE1	1
457	050G 600 3	9JR5000000005	HANDLE2	1
450	P44GC004843 2A	9JR4400000063	CARTON	1
451	P44GC004101	9JR4400000061	CUSHION_TOP	1
452	P44GC004201	9JR4400000062	CUSHION_BTM	1
453	Q45T 99609 78	9JR4500000012	EPE COVER FOR MONITOR	1
504	P40TD000813 9A	9JR4000000005	family sheet	1
505	P40TD00081311A	9JR4000000006	FAMILY SHEET	1
1050	750GLU215H1611N000	9JR7500000027	PANEL M215HW01 V600 TW AUO	1
1054	ADTVA3615PA1	9JR9900000057	POWER PCB ASSY	1
1056	IRPFAPA4	9JR9900000059	IR PCB ASSY	1
1057	KEPFAPA1	9JR9900000060	KEY PCB ASSY	1
1172	089G204A15NLS1	9JR8900000009	POWER CORD 1.5M PE8C5Z1B90A-04B	1
1176	098GRABD2NESPJ	9JR9800000005	REMOTE CONTROL RC-SHARP-420 FOR SHARP	1
1185	078G035A 7 M	9JR7800000014	SPEAKER 16 OHM 3.5W 290/260mm 80X23mm	1
1186	017G DW904 LY	9JR1700000001	LED MODULE LYSB-2811B	1
1187	095G8021 3F905	9JR9500000089	HARNESS AC INLET-3P 60mm 75549	1
8401	095G801413F938	9JR9500000087	HARNESS 13P-5P+3P 380mm 75462	1
8408	095G801840F911	9JR9500000088	HARNESS 30P-40P 60mm 75461	1
8802	095G176W 10912	9JR9500000085	FFC CABLE 10P 250mm P0.5 WDK10012903	1
8804	095G176W 10913	9JR9500000086	FFC CABLE 10P 420mm P0.5 WDK10012904	1
8901	095G8021 3F905	9JR9500000089	HARNESS AC INLET-3P 60mm 75549	1
	0M1T1730 6120	9JR0100000036	SCREW 3*6MM	14
	OQ1G 330 5106	9JR0100000058	SCREW	5
1053	CBPFA4ABP1	9JR9900000058	MAIN PCB ASSY	1
C1000	067G215C4713LV	9JR67000000216	EC 470uF 20% 16V RXY 8*9	1
C1001	065G0805106A5K T	9JR65000000424	CHIP 10uF 10V X5R 0805	1
C1005	065G060327031J A	9JR65000000355	CAP CHIP 0603 27PF J 50V NPO	1
C1006	065G060327031J A	9JR65000000355	CAP CHIP 0603 27PF J 50V NPO	1
C1012	065G040247312K A	9JR65000000394	CAP CHIP 0402 47nF K 16V X7R	1
C1013	065G040247312K A	9JR65000000394	CAP CHIP 0402 47nF K 16V X7R	1
C1014	065G040247312K A	9JR65000000394	CAP CHIP 0402 47nF K 16V X7R	1
C1015	065G040247312K A	9JR65000000394	CAP CHIP 0402 47nF K 16V X7R	1
C1016	065G040239031J A	9JR65000000415	CAP CHIP 0402 39PF J 50V NPO	1
C1017	065G040239031J A	9JR65000000415	CAP CHIP 0402 39PF J 50V NPO	1
C1018	065G040233031J A	9JR65000000414	CAP 0402 33PF J 50V NPO	1
C1019	065G040233031J A	9JR65000000414	CAP 0402 33PF J 50V NPO	1
C1020	065G040222031J A	9JR65000000412	CAP 0402 22PF J 50V NPO	1
C1021	065G040222031J A	9JR65000000412	CAP 0402 22PF J 50V NPO	1
C1022	065G040233031J A	9JR65000000414	CAP 0402 33PF J 50V NPO	1

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

C1023	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1024	065G060310605M Y	9JR6500000417	CAP CHIP 0603 10uF 6.3V X5R +/-20%	1
C1031	065G040210131J A	9JR6500000409	CAP 0402 100PF J 50V NPO	1
C1033	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1034	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1035	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1036	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1037	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1038	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1039	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1040	065G060310605M Y	9JR6500000417	CAP CHIP 0603 10uF 6.3V X5R +/-20%	1
C1041	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1048	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1049	065G060310031J A	9JR6500000343	CAP 0603 10PF J 50V NPO	1
C1053	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1054	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1
C1055	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1056	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1
C1057	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1
C1058	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1059	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1060	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1064	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1065	065G040247312K A	9JR6500000394	CAP CHIP 0402 47nF K 16V X7R	1
C1068	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1069	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1070	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1071	065G060310605M Y	9JR6500000417	CAP CHIP 0603 10uF 6.3V X5R +/-20%	1
C1072	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1073	065G040282132K Y	9JR6500000416	CAP CHIP 0402 820P 50V X7R +/-10%	1
C1074	065G040282132K Y	9JR6500000416	CAP CHIP 0402 820P 50V X7R +/-10%	1
C1077	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1078	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1079	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1082	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1083	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1085	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1086	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1088	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1089	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1090	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1091	065G060322517Z Y	9JR6500000259	CAP CHIP 0603 2.2UF Z 16V Y5V	1
C1092	065G040210131J A	9JR6500000409	CAP 0402 100PF J 50V NPO	1
C1093	065G060322517Z Y	9JR6500000259	CAP CHIP 0603 2.2UF Z 16V Y5V	1
C1094	065G060310131J A	9JR6500000344	CAP CHIP 0603 100PF J 50V NPO SAMSUNG	1
C1095	065G120610625K T	9JR6500000428	CAP CHIP 1206 10uF K 25V X5R	1
C1096	065G060322517Z Y	9JR6500000259	CAP CHIP 0603 2.2UF Z 16V Y5V	1
C1097	065G060322517Z Y	9JR6500000259	CAP CHIP 0603 2.2UF Z 16V Y5V	1
C1098	065G080547517Z Y	9JR6500000426	CAP CHIP 0805 4.7UF Z 16V Y5V	1
C1099	065G040210131J A	9JR6500000409	CAP 0402 100PF J 50V NPO	1
C1100	065G060310131J A	9JR6500000344	CAP CHIP 0603 100PF J 50V NPO SAMSUNG	1
C1101	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C1102	065G060382131J A	9JR6500000423	CAP CHIP 0603 820PF J 50V NPO	1
C1103	065G060382131J A	9JR6500000423	CAP CHIP 0603 820PF J 50V NPO	1
C1105	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1106	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1152	065G0402105A5K T	9JR6500000410	CAP CHIP 0402 1uF K 10V X5R	1
C1153	065G040215232K A	9JR6500000392	CAP CHIP 0402 1.5NF K 50V X7R	1
C1154	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1155	065G060350931J A	9JR6500000422	MLCC 0603 5pF 50V NPO +/-5% SAMSUNG	1
C1156	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1
C1157	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1158	065G060350931J A	9JR6500000422	MLCC 0603 5pF 50V NPO +/-5% SAMSUNG	1
C1159	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1160	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1
C1161	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1162	065G040215031J A	9JR6500000411	CAP CHIP 0402 15PF J 50V NPO	1

C1163	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1164	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1165	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1167	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1168	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1170	065G040250931J A	9JR6500000395	CAP 0402 5PF J 50 NPO	1
C1171	065G040250931J A	9JR6500000395	CAP 0402 5PF J 50 NPO	1
C1172	065G040250931J A	9JR6500000395	CAP 0402 5PF J 50 NPO	1
C1173	065G040215232K A	9JR6500000392	CAP CHIP 0402 1.5NF K 50V X7R	1
C1174	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1175	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1176	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1178	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1179	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1180	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1181	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1183	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C1185	065G040247312K A	9JR6500000394	CAP CHIP 0402 47nF K 16V X7R	1
C1187	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C1188	065G040247312K A	9JR6500000394	CAP CHIP 0402 47nF K 16V X7R	1
C1191	065G040247312K A	9JR6500000394	CAP CHIP 0402 47nF K 16V X7R	1
C1192	065G040247031J A	9JR6500000393	CAP CHIP 0402 47PF J 50V NPO	1
C1193	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C1194	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C4000	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4001	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4002	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4003	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4004	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4005	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4006	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4007	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4008	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4009	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4010	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4011	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4012	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4013	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4014	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4015	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4016	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C402	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C404	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4050	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4051	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4052	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4053	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4054	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4055	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4056	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4057	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4058	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4059	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C406	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4060	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4061	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4062	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C4063	067G305M1013PB	9JR6700000219	EC 100uF M 16V 6.3*7mm	1
C4064	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C4067	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C4068	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C4069	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C407	067G215H151 4C	9JR6700000218	EC 150UF 20% 25V SY 8*7	1
C4100	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4101	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4102	067G 3111013LT	9JR6700000213	EC SMD 100uF 16V VEL 6.3x5.5mm	1
C4103	067G 3111013LT	9JR6700000213	EC SMD 100uF 16V VEL 6.3x5.5mm	1

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C4104	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4105	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4106	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4107	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4108	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4109	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4110	065G0805106A5K	T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C4111	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4112	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4113	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4114	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4115	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4116	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4117	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4118	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4119	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4120	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4121	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4122	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4123	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4124	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4125	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4126	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4127	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4128	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4129	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4130	065G040210332K	A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C4150	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4151	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4152	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4154	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4156	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4157	065G060310432K	A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C4158	065G060322517Z	Y	9JR6500000259	CAP CHIP 0603 2.2uF Z 16V Y5V	1
C4159	065G060310432K	A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C4160	065G060310432K	A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C4161	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4163	065G040210031J	A	9JR6500000408	CAP CHIP 0402 10pF J 50V NPO	1
C4164	065G040210031J	A	9JR6500000408	CAP CHIP 0402 10pF J 50V NPO	1
C4165	065G040210232K	A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C4166	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4167	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4168	065G0603475A5K	T	9JR6500000421	CAP CHIP 0603 4.7uF K 10V X5R	1
C4169	065G060310605M	Y	9JR6500000417	CAP CHIP 0603 10uF 6.3V X5R +/-20%	1
C4170	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4171	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4172	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4173	065G060310512K	T	9JR6500000253	CAP CHIP 0603 1uF K 16V X7R	1
C4174	065G060310432K	A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C4201	065G0805106A5K	T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C4202	065G0805106A5K	T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C4203	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4204	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C4205	065G040210031J	A	9JR6500000408	CAP CHIP 0402 10pF J 50V NPO	1
C4206	065G040210031J	A	9JR6500000408	CAP CHIP 0402 10pF J 50V NPO	1
C4207	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C503	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C504	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C505	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C506	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C507	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C510	065G0603475A5K	T	9JR6500000421	CAP CHIP 0603 4.7uF K 10V X5R	1
C511	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C516	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C517	065G040210412K	A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C601	065G0805106A5K	T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C602	065G060310432K	A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1

C603	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C604	067G 3112213CT	9JR6700000214	EC SMD 220UF 16V HV 6.3*7.7	1
C605	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C606	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C608	065G0603225A5K T	9JR6500000419	CAP CHIP 0603 2.2uF K 10V X5R	1
C609	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C610	065G0603225A5K T	9JR6500000419	CAP CHIP 0603 2.2uF K 10V X5R	1
C611	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C613	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C614	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C615	065G080510522K Y	9JR6500000170	CAP CHIP 0805 1UF K 25V X7R	1
C616	065G060310522K T	9JR6500000399	CAP CHIP 0603 1UF K 25V X7R	1
C617	065G060310522K T	9JR6500000399	CAP CHIP 0603 1UF K 25V X7R	1
C618	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C619	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C620	065G080533432K A	9JR6500000425	CAP CHIP 0805 0.33uF K 50V X7R	1
C621	065G060347412K A	9JR6500000420	CAP CHIP 0603 470nF K 16V X7R	1
C622	065G060347412K A	9JR6500000420	CAP CHIP 0603 470nF K 16V X7R	1
C623	065G060347412K A	9JR6500000420	CAP CHIP 0603 470nF K 16V X7R	1
C624	065G060347412K A	9JR6500000420	CAP CHIP 0603 470nF K 16V X7R	1
C625	065G080533432K A	9JR6500000425	CAP CHIP 0805 0.33uF K 50V X7R	1
C626	065G080533432K A	9JR6500000425	CAP CHIP 0805 0.33uF K 50V X7R	1
C627	065G060322422K A	9JR6500000418	MLCC 0603 220nF 25V X7R +/-10% SAMSUNG	1
C628	065G060322422K A	9JR6500000418	MLCC 0603 220nF 25V X7R +/-10% SAMSUNG	1
C629	065G060322422K A	9JR6500000418	MLCC 0603 220nF 25V X7R +/-10% SAMSUNG	1
C630	065G060322422K A	9JR6500000418	MLCC 0603 220nF 25V X7R +/-10% SAMSUNG	1
C631	065G080533432K A	9JR6500000425	CAP CHIP 0805 0.33uF K 50V X7R	1
C632	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C633	067G 3112217CT	9JR6700000215	EC SMD 220UF 20% 50V HV 10*10.5	1
C634	067G 3112217CT	9JR6700000215	EC SMD 220UF 20% 50V HV 10*10.5	1
C636	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C638	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C641	065G040210232K A	9JR6500000390	CAP 0402 1NF K 50V X7R	1
C642	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C643	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C644	065G040222232K A	9JR6500000413	CAP CHIP 0402 2.2NF K 50V X7R	1
C645	065G040222232K A	9JR6500000413	CAP CHIP 0402 2.2NF K 50V X7R	1
C646	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C647	065G040210332K A	9JR6500000341	CAP 0402 10NF 50V X7R	1
C702	067G215C4713LV	9JR6700000216	EC 470uF 20% 16V RXY 8*9	1
C705	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C706	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C707	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C708	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C709	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C711	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C712	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C713	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C714	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C715	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C716	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C717	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C718	065G060310432K A	9JR6500000398	CAP CHIP 0603 100nF K 50V X7R	1
C719	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C720	065G060356131J A	9JR6500000360	CAP CHIP 0603 560PF J 50V NPO	1
C721	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C722	065G060356131J A	9JR6500000360	CAP CHIP 0603 560PF J 50V NPO	1
C723	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C724	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C725	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C726	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C727	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C728	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C729	065G120610612K T	9JR6500000427	CAP CHIP 1206 10UF K 16V X7R	1
C730	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C731	065G060310522K T	9JR6500000399	CAP CHIP 0603 1UF K 25V X7R	1
C732	065G120610625K T	9JR6500000428	CAP CHIP 1206 10uF K 25V X5R	1

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

C733	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C734	067G215H101 4C	9JR6700000217	EC 100UF 20% 25V SY 8*7	1
C735	065G1206226A5K T	9JR6500000429	CAP CHIP1206 22uF K 10V X5R	1
C752	067G305M1013PB	9JR6700000219	EC 100uF M 16V 6.3*7mm	1
C753	067G305M1013PB	9JR6700000219	EC 100uF M 16V 6.3*7mm	1
C754	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C755	065G0603475A5K T	9JR6500000421	CAP CHIP 0603 4.7UF K 10V X5R	1
C756	065G040210412K A	9JR6500000391	CAP CHIP 0402 100nF K 16V X7R	1
C758	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C764	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C765	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C766	065G060310512K T	9JR6500000253	CAP CHIP 0603 1UF K 16V X7R	1
C767	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
C768	065G080510615K T	9JR6500000406	CHIP 10uF 16V X5R 0805	1
C769	065G0805106A5K T	9JR6500000424	CHIP 10uF 10V X5R 0805	1
CN101	088G 35315F CL	9JR8800000094	D-SUB 15PIN FEMALE VERTICAL WITH SCREW	1
CN102	088G 302 69 YG	9JR8800000099	PHONE JACK 3P GREEN 10.5mm V/T	1
CN103	088G 352 14 YG	9JR8800000102	USB CONN A TYPE SPRING	1
CN111	088G 7813C 60 YG	9JR8800000097	RCA JACK 1*3 G/BL/R 10.5mm	1
CN116	088G 7813B78C	9JR8800000096	RCA JACK 1*3 W/R/B V/T	1
CN136	088G 7813C75C	9JR8800000098	RCA JACK 1*3 Y/W/R	1
CN140	088G 78 13 78 YG	9JR8800000095	RCA JACK 1*3 Y/W/R V/T 10.5mm	1
CN151	088G 35521G C	9JR8800000104	SCART CONN. 21P V/T 10.5mm	1
CN159	088G 50019A VA	9JR8800000105	PCMCIA CONN 11112203	1
CN401	033G380213B Y	9JR3300000073	CONNECTOR	1
CN404	088G 353 9M VD	9JR8800000103	D-SUB 9 PIN MALE WITH SCREW V/T	1
CN408	033G8033 40 X	9JR3300000063	CON. V 2*20P M 1.25 SM S1312-40SVA-1R	1
CN502	088G 34019H VD	9JR8800000100	HDMI HEADER 19P V/T H:13.0mm	1
CN506	088G 34019K AD	9JR8800000101	HDMI HEADER 19P H: 2.8mm	1
CN601	033G3278 4D	9JR3300000076	2.5mm Pitch Wafer	1
CN602	088G 30211K	9JR8800000058	PHONE JACK 5PIN	1
CN701	033G327813D	9JR3300000077	CONNECTOR	1
D1050	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1051	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1052	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1054	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1056	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1057	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1060	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1061	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1063	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1064	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1150	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1151	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1152	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1153	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1154	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1155	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1156	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1157	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1158	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1159	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1160	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1161	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1166	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1167	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1170	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1171	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1172	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D1173	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D4050	093G 6433S	9JR9300000062	DIODE BAV99 SEMTECH	1
D4051	093G 6433S	9JR9300000062	DIODE BAV99 SEMTECH	1
D4151	093G 6433S	9JR9300000062	DIODE BAV99 SEMTECH	1
D4152	093G 6433S	9JR9300000062	DIODE BAV99 SEMTECH	1
D4155	093G 6433S	9JR9300000062	DIODE BAV99 SEMTECH	1
D501	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D502	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1

D506	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D507	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D508	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D509	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D510	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D603	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D604	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D606	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D607	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D608	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D702	093G 60S922 T	9JR9300000167	DIODE FB340M DO-222AA	1
D703	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
D704	093G 64S900 T	9JR9300000107	DIODE BAS316 SOT-323 PHILIPS	1
FB1000	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1002	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1003	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1004	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1005	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1006	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB1009	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1011	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1012	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1013	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1014	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1017	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1018	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1020	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1021	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1022	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1023	071G 59C600 TA	9JR7100000044	CHIP BEAD 60ohm 600mA FCM1608CF-600T06	1
FB1024	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1025	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB1052	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1053	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1054	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1158	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1159	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1160	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1161	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1162	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1163	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1164	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1165	071G 59C800 TA	9JR7100000066	CHIP BEAD 80R 400mA FCM16008CF-800T04	1
FB1167	071G 59C601 TA	9JR7100000032	CHIP BEAD 600R/200mA FCM1608K-601T02	1
FB1168	071G 59C601 TA	9JR7100000032	CHIP BEAD 600R/200mA FCM1608K-601T02	1
FB4000	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB402	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB403	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB4057	071G 59D121 TA	9JR7100000033	CHIP BEAD 120R/600mA FCM1608KF-121T06	1
FB4058	071G 59D121 TA	9JR7100000033	CHIP BEAD 120R/600mA FCM1608KF-121T06	1
FB4060	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB4100	071G 59D121 TA	9JR7100000033	CHIP BEAD 120R/600mA FCM1608KF-121T06	1
FB4151	071G 59D121 TA	9JR7100000033	CHIP BEAD 120R/600mA FCM1608KF-121T06	1
FB4152	071G 59C601 TA	9JR7100000032	CHIP BEAD 600R/200mA FCM1608K-601T02	1
FB4200	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB501	071G 59C601 TA	9JR7100000032	CHIP BEAD 600R/200mA FCM1608K-601T02	1
FB503	071G 59C601 TA	9JR7100000032	CHIP BEAD 600R/200mA FCM1608K-601T02	1
FB601	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB605	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB606	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB701	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB702	071G 59A121 TA	9JR7100000031	CHIP BEAD 120R/3000mA HCB1608KF-121T30	1
FB704	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB705	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB706	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB707	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1
FB751	071G 56A221 TA	9JR7100000039	IND FXD 0805 EMI 100MHZ 220R R	1

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

L1000	073G 63228 TA	9JR7300000079	CHIP INDUCTOR 1608 0.22UH +-10% 0.8R	1
L1001	073G 63228 TA	9JR7300000079	CHIP INDUCTOR 1608 0.22UH +-10% 0.8R	1
L1002	073G 63338 TA	9JR7300000080	CHIP INDUCTOR 1608 0.33UH +-10% 0.85R	1
L1003	073G 63338 TA	9JR7300000080	CHIP INDUCTOR 1608 0.33UH +-10% 0.85R	1
L1050	073G 63189 TA	9JR7300000056	CHIP INDUCTOR 1U8 10% FCI1608F-1R8K	1
L1051	073G 63189 TA	9JR7300000056	CHIP INDUCTOR 1U8 10% FCI1608F-1R8K	1
L401	073G253S901 T	9JR7300000038	SMD CHOKE 90R/400mA ACM2012-900-2P	1
L402	073G253S901 T	9JR7300000038	SMD CHOKE 90R/400mA ACM2012-900-2P	1
L4150	073G 63828 TA	9JR7300000057	CHIP INDUCROR 0U82 10% FCI1608F-R82K	1
L601	073G 259903 T	9JR7300000083	CHOKE 47uH+-10% TSL0808RA-470K1R2-PF	1
L602	073G 259903 T	9JR7300000083	CHOKE 47uH+-10% TSL0808RA-470K1R2-PF	1
L603	073G 259903 T	9JR7300000083	CHOKE 47uH+-10% TSL0808RA-470K1R2-PF	1
L604	073G 259903 T	9JR7300000083	CHOKE 47uH+-10% TSL0808RA-470K1R2-PF	1
L701	073G253S 46 S	9JR7300000084	SMD CHOKE 4.7uH	1
L702	073G253S 46 S	9JR7300000084	SMD CHOKE 4.7uH	1
Q1001	057G 761900 T	9JR5700000076	BC857 SOT23	1
Q1050	057G 760900	9JR5700000057	DIGITAL TR DTC623TK SMT3	1
Q1051	057G 760900	9JR5700000057	DIGITAL TR DTC623TK SMT3	1
Q1150	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q1151	057G 760900	9JR5700000057	DIGITAL TR DTC623TK SMT3	1
Q1152	057G 760900	9JR5700000057	DIGITAL TR DTC623TK SMT3	1
Q1155	057G 759 2	9JR5700000055	RK7002FD5T116 SOT-23 BY ROHM	1
Q1156	057G 759 2	9JR5700000055	RK7002FD5T116 SOT-23 BY ROHM	1
Q1157	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q401	057G 417511	9JR5700000001	MMBT3904	1
Q402	057G 417511	9JR5700000001	MMBT3904	1
Q502	057G 763910	9JR5700000073	FET 2SK1828 TO-236MOD	1
Q504	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q505	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q506	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q507	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q508	057G 763910	9JR5700000073	FET 2SK1828 TO-236MOD	1
Q601	057G 477904 T	9JR5700000053	TRA BC847BW 100mA/45V SOT-323	1
Q602	057G 761902 T	9JR5700000059	TRA BC857BW 100mA/50V SOT-323	1
Q605	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q701	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q702	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q703	057G 763913	9JR5700000065	MOSFET AO6415 TSOP6	1
Q704	057G 763941	9JR5700000089	MOSFET AON4421 DFN	1
Q705	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q706	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
Q707	057G 763941	9JR5700000089	MOSFET AON4421 DFN	1
Q750	057G 763941	9JR5700000089	MOSFET AON4421 DFN	1
Q751	057G 477900 T	9JR5700000052	TRA SIG SM BC847C (KEC0) R	1
R1002	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R1003	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R1005	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1006	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1007	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1008	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1010	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1011	061G06031000FT	9JR6100000002	RST CHIP 100R 1/10W 1%	1
R1012	061G06031000FT	9JR6100000002	RST CHIP 100R 1/10W 1%	1
R1013	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1017	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1018	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1019	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R1021	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1024	061G0402104 JT	9JR6100000603	RST CHIP 100K 1/16W 5% TZAI YUAN	1
R1025	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1031	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1032	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1033	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1038	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1039	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1041	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1042	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1

R1043	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1044	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1045	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1046	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1047	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1048	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1049	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1050	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1051	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1052	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1060	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1061	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1062	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1063	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1064	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1065	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1067	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1071	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1072	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1073	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1078	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1079	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1080	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1081	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1082	061G06031002FT	9JR6100000680	RST CHIP 10K 1/10W 1%	1
R1083	061G0603102 JT	9JR6100000623	RST CHIP 1K 1/10W 5% TZAI YUAN	1
R1084	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R1085	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R1086	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1087	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R1088	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R1089	061G0603102 JT	9JR6100000623	RST CHIP 1K 1/10W 5% TZAI YUAN	1
R1099	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1100	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1101	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1102	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1103	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1104	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1105	061G0603363 JT	9JR6100000888	RST CHIPR 36K OHM +-5% 1/10W TZAI YUAN	1
R1106	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1107	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1108	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1109	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R1110	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R1111	061G0603363 JT	9JR6100000888	RST CHIPR 36K OHM +-5% 1/10W TZAI YUAN	1
R1112	061G0603363 JT	9JR6100000888	RST CHIPR 36K OHM +-5% 1/10W TZAI YUAN	1
R1113	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1114	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R1115	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1116	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R1117	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1118	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1119	061G0603363 JT	9JR6100000888	RST CHIPR 36K OHM +-5% 1/10W TZAI YUAN	1
R1121	061G06031002FT	9JR6100000680	RST CHIP 10K 1/10W 1%	1
R1122	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1126	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1127	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1129	061G0603750 JT	9JR6100000644	RST CHIP 75R 1/10W 5% TZAI YUAN	1
R1131	061G0402513 JT	9JR6100000882	RST CHIP 51K 1/16W 5% TZAI YUAN	1
R1133	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1134	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1135	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1137	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1138	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +-5% 1/16W TZAI YUAN	1
R1150	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1151	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1152	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

R1153	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1154	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1155	061G0402303 JT	9JR6100000878	RST CHIP R 30Kohm 1/16W +/-5% TZAI YUAN	1
R1156	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1157	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1158	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1159	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1160	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1161	061G04025609FT	9JR6100000344	RST CHIP 56R 1/16W 1%	1
R1162	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1163	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1164	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1165	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1166	061G04025609FT	9JR6100000344	RST CHIP 56R 1/16W 1%	1
R1167	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R1168	061G0402180 JT	9JR6100000605	RST CHIP 18R 1/16W 5% TZAI YUAN	1
R1169	061G04025609FT	9JR6100000344	RST CHIP 56R 1/16W 1%	1
R1170	061G0402180 JT	9JR6100000605	RST CHIP 18R 1/16W 5% TZAI YUAN	1
R1171	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1172	061G0402180 JT	9JR6100000605	RST CHIP 18R 1/16W 5% TZAI YUAN	1
R1173	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1174	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1175	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1176	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1177	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1178	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1179	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1180	061G0402680 JT	9JR6100000617	RST CHIP 68R 1/16W 5% TZAI YUAN	1
R1181	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1182	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R1183	061G0603101 JT	9JR6100000622	RST CHIP 100R 1/10W 5% TZAI YUAN	1
R1184	061G0603152 JT	9JR6100000884	RST CHIP 1K5 1/10W 5% TZAI YUAN	1
R1185	061G0603152 JT	9JR6100000884	RST CHIP 1K5 1/10W 5% TZAI YUAN	1
R1186	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1187	061G0603750 JT	9JR6100000644	RST CHIP 75R 1/10W 5% TZAI YUAN	1
R1188	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R1189	061G06032400FT	9JR6100000885	RST CHIP 240R 1/10W 1%	1
R1190	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1191	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1192	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1193	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1194	061G0603101 JT	9JR6100000622	RST CHIP 100R 1/10W 5% TZAI YUAN	1
R1195	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R1196	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1197	061G0603750 JT	9JR6100000644	RST CHIP 75R 1/10W 5% TZAI YUAN	1
R1198	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R1199	061G0402750 JT	9JR6100000618	RST CHIPR 75 OHM +/-5% 1/16W TZAI YUAN	1
R1200	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1201	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1202	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1203	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R1204	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R1205	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R1206	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R1207	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R1208	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R1209	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R4000	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4001	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4003	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4004	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4005	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4006	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4050	061G06035600FT	9JR6100000892	RST CHIP 560R 1/10W 1%	1
R4051	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R4052	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R4056	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1

R4057	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4058	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4059	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R406	061G0603102 JT	9JR6100000623	RST CHIP 1K 1/10W 5% TZAI YUAN	1
R4060	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4061	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4062	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4063	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R407	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R408	061G0603101 JT	9JR6100000622	RST CHIP 100R 1/10W 5% TZAI YUAN	1
R409	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R4100	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4101	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4102	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4103	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4104	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4105	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4106	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R4107	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R4108	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R4109	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R411	061G0603202 JT	9JR6100000694	RST CHIPR 2KOHM 1/10W TZAI YUAN	1
R4110	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4111	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4112	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R413	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R414	061G0805103 JT	9JR6100000895	RST CHIPR 10K OHM +- 5% 1/8W TZAI YUAN	1
R4151	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4152	061G0603109 JT	9JR6100000627	RST CHIP 1R 1/10W 5% TZAI YUAN	1
R4153	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R4154	061G06036801FT	9JR6100000495	RST CHIP 6K8 1/10W 1%	1
R4156	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4158	061G0402331 JT	9JR6100000612	RST CHIP 330R 1/16W 5% TZAI YUAN	1
R4159	061G0603101 JT	9JR6100000622	RST CHIP 100R 1/10W 5% TZAI YUAN	1
R4160	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4162	061G0603163 JT	9JR6100000630	RST CHIP 16K 1/10W 5% TZAI YUAN	1
R4163	061G0603163 JT	9JR6100000630	RST CHIP 16K 1/10W 5% TZAI YUAN	1
R4164	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4165	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R4166	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4167	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4168	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4169	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4170	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4171	061G04023901FT	9JR6100000879	RST 0402 3.9K 1% 1/16W TZAI YUAN	1
R4172	061G06031000FT	9JR6100000002	RST CHIP 100R 1/10W 1%	1
R4173	061G04023901FT	9JR6100000879	RST 0402 3.9K 1% 1/16W TZAI YUAN	1
R4174	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4175	061G06031000FT	9JR6100000002	RST CHIP 100R 1/10W 1%	1
R4176	061G0402330 JT	9JR6100000611	RST CHIP 33R 1/16W 5% TZAI YUAN	1
R4177	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R4179	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R418	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4180	061G0402104 JT	9JR6100000603	RST CHIP 100K 1/16W 5% TZAI YUAN	1
R4181	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R4182	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4183	061G0603331 JT	9JR6100000637	RST CHIPR 330OHM 1/10W TZAI YUAN	1
R4184	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4185	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4186	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4187	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4188	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4189	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R419	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4190	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4191	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4192	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1

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R4193	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4194	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4195	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4196	061G0402471 JT	9JR6100000880	RST CHIP 470R 1/16W 5% TZAI YUAN	1
R4197	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4198	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4199	061G0603101 JT	9JR6100000622	RST CHIP 100R 1/10W 5% TZAI YUAN	1
R420	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R4200	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R4201	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R4202	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4203	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4204	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4205	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4206	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4207	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4208	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4209	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4210	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4211	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4212	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4213	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4214	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4215	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4216	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4217	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4218	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4219	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4220	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4221	061G0402220 JT	9JR6100000607	RST CHIP 22R 1/16W 5% TZAI YUAN	1
R4222	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4223	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4224	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4225	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4226	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4227	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R4229	061G0603470 JT	9JR6100000889	RST CHIP 47R 1/10W 5% TZAI YUAN	1
R4230	061G0603470 JT	9JR6100000889	RST CHIP 47R 1/10W 5% TZAI YUAN	1
R4231	061G0603104 JT	9JR6100000625	RST CHIP 100K 1/10W 5% TZAI YUAN	1
R4232	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R4233	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R501	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R502	061G0402273 JT	9JR6100000610	RST CHIP 27K 1/16W 5% TZAI YUAN	1
R504	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R518	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R519	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R520	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R521	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R522	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R524	061G0402330 JT	9JR6100000611	RST CHIP 33R 1/16W 5% TZAI YUAN	1
R525	061G0402474 JT	9JR6100000881	RST CHIP 470K 1/16W 5% TZAI YUAN	1
R526	061G0603102 JT	9JR6100000623	RST CHIP 1K 1/10W 5% TZAI YUAN	1
R527	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R528	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R529	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R530	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R531	061G0402474 JT	9JR6100000881	RST CHIP 470K 1/16W 5% TZAI YUAN	1
R532	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R533	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R534	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R535	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R536	061G0603473 JT	9JR6100000642	RST CHIP 47K 1/10W 5% TZAI YUAN	1
R537	061G0603473 JT	9JR6100000642	RST CHIP 47K 1/10W 5% TZAI YUAN	1
R538	061G0603330 JT	9JR6100000636	RST CHIP 33R 1/10W 5% TZAI YUAN	1
R539	061G0603472 JT	9JR6100000641	RST CHIP 4K7 1/10W 5% TZAI YUAN	1
R540	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R541	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1

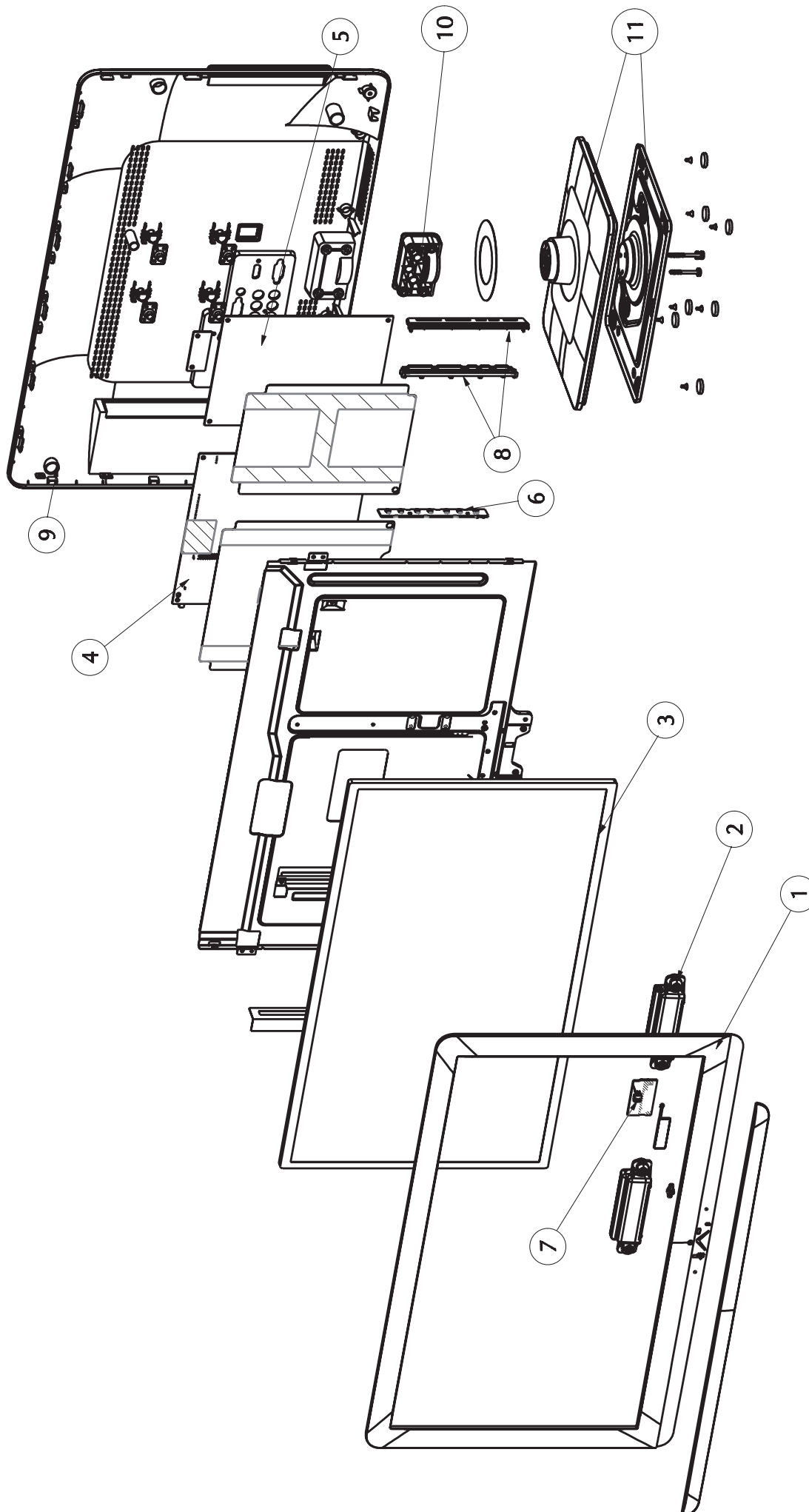
R562	061G06035101FT	9JR6100000490	RST CHIP 5K1 1/10W 1%	1
R565	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R566	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R567	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R601	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R604	061G0402223 JT	9JR6100000609	RST CHIP 22K 1/16W 5% TZAI YUAN	1
R605	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R606	061G0402104 JT	9JR6100000603	RST CHIP 100K 1/16W 5% TZAI YUAN	1
R607	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R608	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R609	061G0603100 JT	9JR6100000621	RST CHIP 10R 1/10W 5% TZAI YUAN	1
R611	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R612	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R613	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R614	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R615	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R617	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R618	061G0603100 JT	9JR6100000621	RST CHIP 10R 1/10W 5% TZAI YUAN	1
R622	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R624	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R628	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R629	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R630	061G1206100 JT	9JR6100000370	RST CHIPR 10 OHM +-5% 1/4W TZAI YUAN	1
R631	061G0402153 JT	9JR6100000876	RST CHIP 15K 1/16W 5% TZAI YUAN	1
R632	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R634	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R637	061G04021000FT	9JR6100000672	RST CHIP 100R 1/16W 1%	1
R638	061G04021000FT	9JR6100000672	RST CHIP 100R 1/16W 1%	1
R639	061G0402100 JT	9JR6100000875	RST CHIP 10R 1/16W 5% TZAI YUAN	1
R640	061G0402100 JT	9JR6100000875	RST CHIP 10R 1/16W 5% TZAI YUAN	1
R641	061G0402100 JT	9JR6100000875	RST CHIP 10R 1/16W 5% TZAI YUAN	1
R642	061G0402100 JT	9JR6100000875	RST CHIP 10R 1/16W 5% TZAI YUAN	1
R643	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R644	061G0402000 JT	9JR6100000711	RST CHIPR MAX0R05 1/16W TZAI YUAN	1
R647	061G04024700FT	9JR6100000678	RST CHIP 470R 1/16W 1%	1
R648	061G04024700FT	9JR6100000678	RST CHIP 470R 1/16W 1%	1
R701	061G0603223 JT	9JR6100000635	RST CHIPR 22KOHM 1/10W TZAI YUAN	1
R702	061G0603333 JT	9JR6100000638	RST CHIP 33K 1/10W 5% TZAI YUAN	1
R704	061G0402101 JT	9JR6100000600	RST CHIP 100R 1/16W 5% TZAI YUAN	1
R705	061G0402272 JT	9JR6100000877	RST CHIP 2K7 1/16W 5% TZAI YUAN	1
R707	061G0402103 JT	9JR6100000602	RST CHIP 10K 1/16W 5% TZAI YUAN	1
R708	061G0603333 JT	9JR6100000638	RST CHIP 33K 1/10W 5% TZAI YUAN	1
R710	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R711	061G0603223 JT	9JR6100000635	RST CHIPR 22KOHM 1/10W TZAI YUAN	1
R712	061G0402102 JT	9JR6100000601	RST CHIP 1K 1/16W 5% TZAI YUAN	1
R714	061G0402472 JT	9JR6100000615	RST CHIP 4K7 1/16W 5% TZAI YUAN	1
R715	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R716	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R717	061G06031200FT	9JR6100000535	RST CHIP 120R 1/10W 1%	1
R718	061G06031001FT	9JR6100000458	RST CHIP 1K 1/10W 1%	1
R719	061G06031501FT	9JR6100000883	RST CHIP 1K5 1/10W 1%	1
R720	061G06033001FT	9JR6100000886	RST CHIP 3K 1/10W 1%	1
R721	061G06031002FT	9JR6100000680	RST CHIP 10K 1/10W 1%	1
R722	061G06031002FT	9JR6100000680	RST CHIP 10K 1/10W 1%	1
R723	061G06033002FT	9JR6100000887	RST CHIP 30K 1/10W 1%	1
R724	061G0402473 JT	9JR6100000616	RST CHIP 47K 1/16W 5% TZAI YUAN	1
R725	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R726	061G0603000 JT	9JR6100000620	RST CHIP MAX 0R05 1/10W TZAI YUAN	1
R727	061G12060004JY	9JR6100000896	RST CHIPR MAX0R05 4A 1/4W YAGEO	1
R728	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R730	061G0603752 JT	9JR6100000894	RST CHIP 7K5 1/10W 5% TZAI YUAN	1
R731	061G06035609FT	9JR6100000893	RST CHIP 56R 1/10W 1%	1
R733	061G06035101FT	9JR6100000490	RST CHIP 5K1 1/10W 1%	1
R750	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1
R751	061G12060004JY	9JR6100000896	RST CHIPR MAX0R05 4A 1/4W YAGEO	1
R752	061G0603512 JT	9JR6100000891	RST CHIPR 5.1KOHM +-5% 1/10W TZAI YUAN	1
R755	061G0603103 JT	9JR6100000624	RST CHIP 10K 1/10W 5% TZAI YUAN	1

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R756	061G06031200FT	9JR6100000535	RST CHIP 120R 1/10W 1%	1
R757	061G0603109 JT	9JR6100000627	RST CHIP 1R 1/10W 5% TZAI YUAN	1
R758	061G0603752 JT	9JR6100000894	RST CHIP 7K5 1/10W 5% TZAI YUAN	1
R759	061G06032002FT	9JR6100000855	RST CHIP 20K 1/10W 1%	1
R760	061G06032202FT	9JR6100000474	RST CHIP 22K 1/10W 1%	1
R761	061G06034701FT	9JR6100000890	RST CHIP 4K7 1/10W 1%	1
R762	061G06031200FT	9JR6100000535	RST CHIP 120R 1/10W 1%	1
R763	061G0603109 JT	9JR6100000627	RST CHIP 1R 1/10W 5% TZAI YUAN	1
RP1000	061G 1260008JY	9JR6100000873	RST CHIP AR 8P4R 0 OHM +-5% 1/16W	1
RP1001	061G 1260008JY	9JR6100000873	RST CHIP AR 8P4R 0 OHM +-5% 1/16W	1
RP1002	061G 1260008JY	9JR6100000873	RST CHIP AR 8P4R 0 OHM +-5% 1/16W	1
RP1003	061G 1260008JY	9JR6100000873	RST CHIP AR 8P4R 0 OHM +-5% 1/16W	1
RP4100	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4101	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4102	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4103	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4104	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4105	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4106	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4107	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4108	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4109	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4110	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
RP4111	061G 1265608JY	9JR6100000874	RST CHIP ARRAY 56R 1/16W 5% 8P4R	1
TH4050	061G 56A050 WT	9JR6100000432	SMD PTC 0.5A KMC3S050RY 1206	1
TU102	094G DVB T10P	9JR9400000008	TUNER DVB-T With Analog FH2607	1
U101	056G 575 14	9JR5600000174	IC Si2163 QFN-36	1
U102	056G 623906	9JR5600000078	IC NLASB3157DFT2G SC-88	1
U106	056G 616 35	9JR5600000177	IC NJM4580V-TE2 SSOP8	1
U107	056G 616 35	9JR5600000177	IC NJM4580V-TE2 SSOP8	1
U108	056G 133507	9JR5600000170	IC AS78L12RTR-G1 12V SOT-89 BCD	1
U110	056G1133152	9JR5600000181	IC EEPROM AT24C02B-TH-T TSSOP-8 2K	1
U401	056G 562316	9JR5600000171	IC Scaler MT5363LICG BGA-522 (H.264,CI)	1
U402	056G 615918	9JR5600000095	IC NT5TU32M16CG-BD BGA-84	1
U403	056G 615918	9JR5600000095	IC NT5TU32M16CG-BD BGA-84	1
U4051	705TPA56023	9JR7050000144	NAND Flash Assy (U4051)	1
U4053	056G 587 13	9JR5600000176	IC Transceiver MAX3232EEUE TSSOP-16	1
U409	705TPA56022	9JR7050000143	Serial IIC EEPROM Assy (U409)(AUO-LG)	1
U410	056G 643 41	9JR5600000166	IC APX809-29SAG-7 SOT23	1
U411	056G 665528	9JR5600000180	IC G5250M1T1U 1A SOT23-5	1
U4150	056G 623906	9JR5600000078	IC NLASB3157DFT2G SC-88	1
U503	056G1133152	9JR5600000181	IC EEPROM AT24C02B-TH-T TSSOP-8 2K	1
U504	056G1133152	9JR5600000181	IC EEPROM AT24C02B-TH-T TSSOP-8 2K	1
U601	056G 616 54	9JR5600000178	IC TPA3110D2 15W TSSOP-28	1
U602	056G 616 59	9JR5600000179	IC TPA6132A2RTER 25mW QFN-16	1
U701	056G 563203	9JR5600000173	IC MP2212DN SOIC8E	1
U702	056G 563203	9JR5600000173	IC MP2212DN SOIC8E	1
U703	056G 585 8	9JR5600000175	AZ1117D-ADJTRE1 TO-252-2	1
U751	056G 563149	9JR5600000172	IC G903T63UF 0.6A/3.3V SOT-223	1
U753	056G 585 8	9JR5600000175	AZ1117D-ADJTRE1 TO-252-2	1
U754	056G 133 30AAC	9JR5600000169	AZ1117H-ADJ-E1	1
U755	056G 563964	9JR5600000059	IC SC4215HSETRT SO-8	1
X1000	093G 22S928 C	9JR9300000166	CRYSTAL 7B16000195 20P 30PPM	1
X4150	093G 22S922 C	9JR9300000126	Crystal 54Mhz 10p SMD-49	1
ZD1051	093G 39GA28 T	9JR9300000116	ZENER DIODE RLZ13B SEMTECH	1
ZD1052	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1063	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1064	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1065	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1066	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1067	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1068	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1150	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1151	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1152	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1153	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1154	093G 39P599 T	9JR9300000117	MM3Z5V6B	1

ZD1155	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1160	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1161	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1162	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1163	093G 39P599 T	9JR9300000117	MM3Z5V6B	1
ZD1169	093G 39P599 T	9JR9300000117	MM3Z5V6B	1

[2] CABINET PARTS(LC-22LE320)



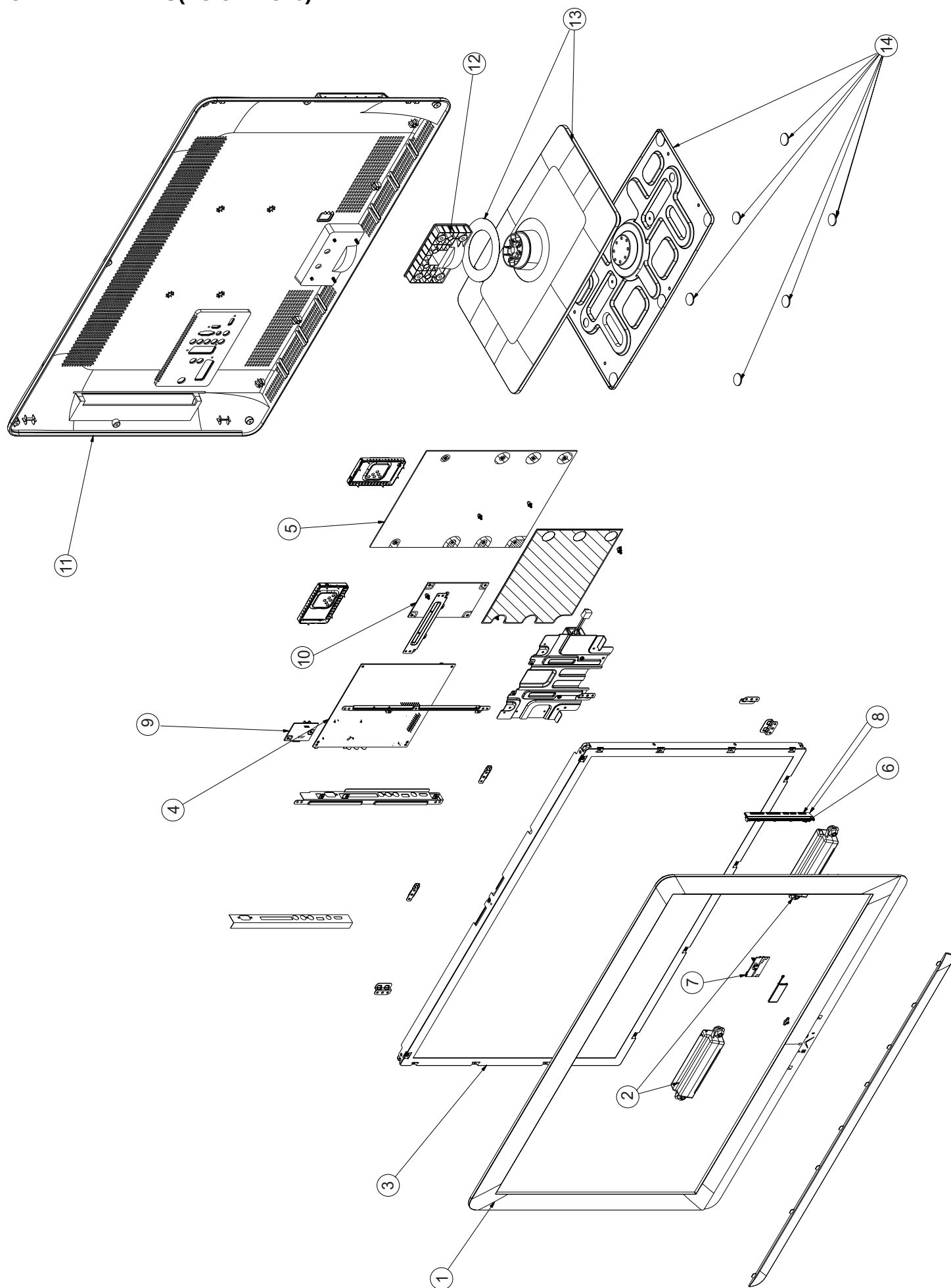
NO.	PARTS CODE	Sharp Code	DESCRIPTION
CABINET PARTS(LC-22LE320E(AUO))			
1	705TZA3460A	9JR7050000145	BEZEL ASSY
2	078G035A 7 M	9JR7800000014	SPEAKER 16 OHM 3.5W 290/260mm 80X23mm
3	750GLU215H1611N000	9JR7500000027	PANEL M215HW01 V600 TW AUO
4	CBPFA4ABP1	9JR9900000058	MAIN PCB ASSY
5	ADTVA3615PA1	9JR9900000057	POWER PCB ASSY
6	KEPFAPA1	9JR9900000060	KEY PCB ASSY
7	IRPFAPA4	9JR9900000059	IR PCB ASSY
8	705TZA3461A	9JR7050000146	KEY COVER ASSY
9	705TZA3462A	9JR7050000147	REAR COVER ASSY
10	P34T0452PAT 1T0100	9JR3400000011	BASE_NECK
11	705TZA3463A	9JR7050000148	BASE ASSY

LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320

CABINET PARTS(LC-26LE320)

NO.	PARTS CODE	Sharp Code	DESCRIPTION
CABINET PARTS(LC-26LE320E(AUO))			
1	705TZA34010		BEZEL ASSY
2	078G055A 9 Y		SPEAKER 16 OHM 5.5W 125X30mm 350/260mm
3	750TVU260W6111N000		PANEL T260XW06 V1 TW AUO
4	CBPFA4ABP2		MAIN PCB ASSY(Nutune TUNER)
5	ADTVA2432PA1		POWER PCB ASSY
6	KEPFAPA1		KEY PCB ASSY
7	IRPFAPA4		IR PCB ASSY
8	705TZA3461A		KEY COVER ASSY
9	705TZA34012		REAR COVER ASSY
10	P34T0460PAT 1T0100		BASE_NECK
11	705TZA34013		BASE COVER ASSY
12	705TZA1518A		BASE PLATE ASSY

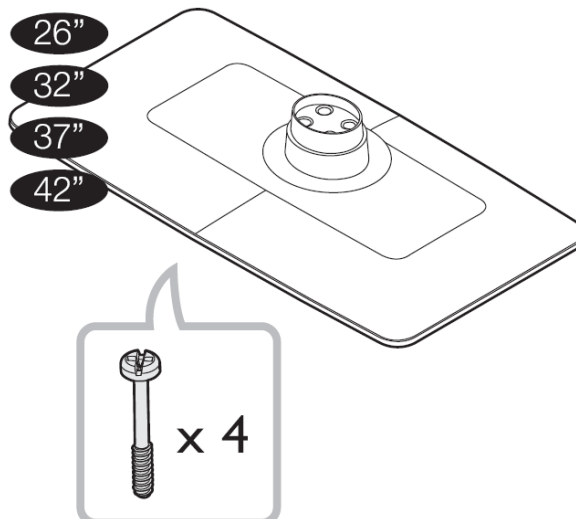
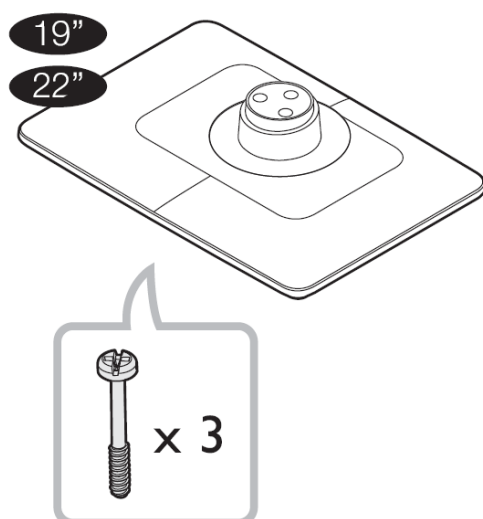
LC-19LE320, LC-22LE320, LC-26LE320, LC-32LE320, LC-37LE320, LC-42LE320
CABINET PARTS(LC-32LE320)



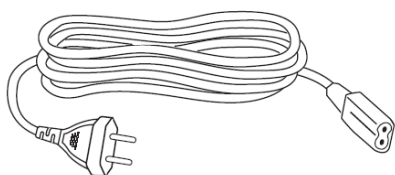
NO.	PARTS CODE	Sharp Code	DESCRIPTION
CABINET PARTS(LC-32LE320E(AUO))			
1	705TZA34074		BEZEL ASSY
2	078G120A 18 M		SPEAKER 16 12W 130X30 550/350
3	750TVU315W5111N000		PANEL T315HW05 V1 TW AUO
4	CBPFA4ABP5		MAIN PCB ASSY(LG TUNER)
5	ADTVA6060PA1		POWER PCB ASSY
6	KEPFAPA1		KEY PCB ASSY
7	IRPFAPA4		IR PCB ASSY
8	705TZA3461A	9JR7050000146	KEY COVER ASSY
9	PTPFAPA3		RS232 PCB ASSY
10	PTPFAPA2		MEMC PCB ASSY
11	P34T0463PAT 1T0100		REAR_COVER_EU
12	P34T0465PAT 1T0100		BASE_NECK
13	705TZA34075		BASE COVER ASSY
14	705TZA1528A		BASE BRACKET ASSY

[3] SUPPLIED ACCESSORIES

Stand unit and screws



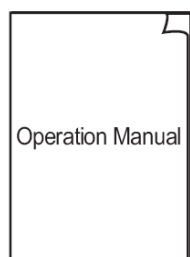
AC cord (x1)
Product shape varies
in some countries



Remote control (x1)
AAA battery (x2)



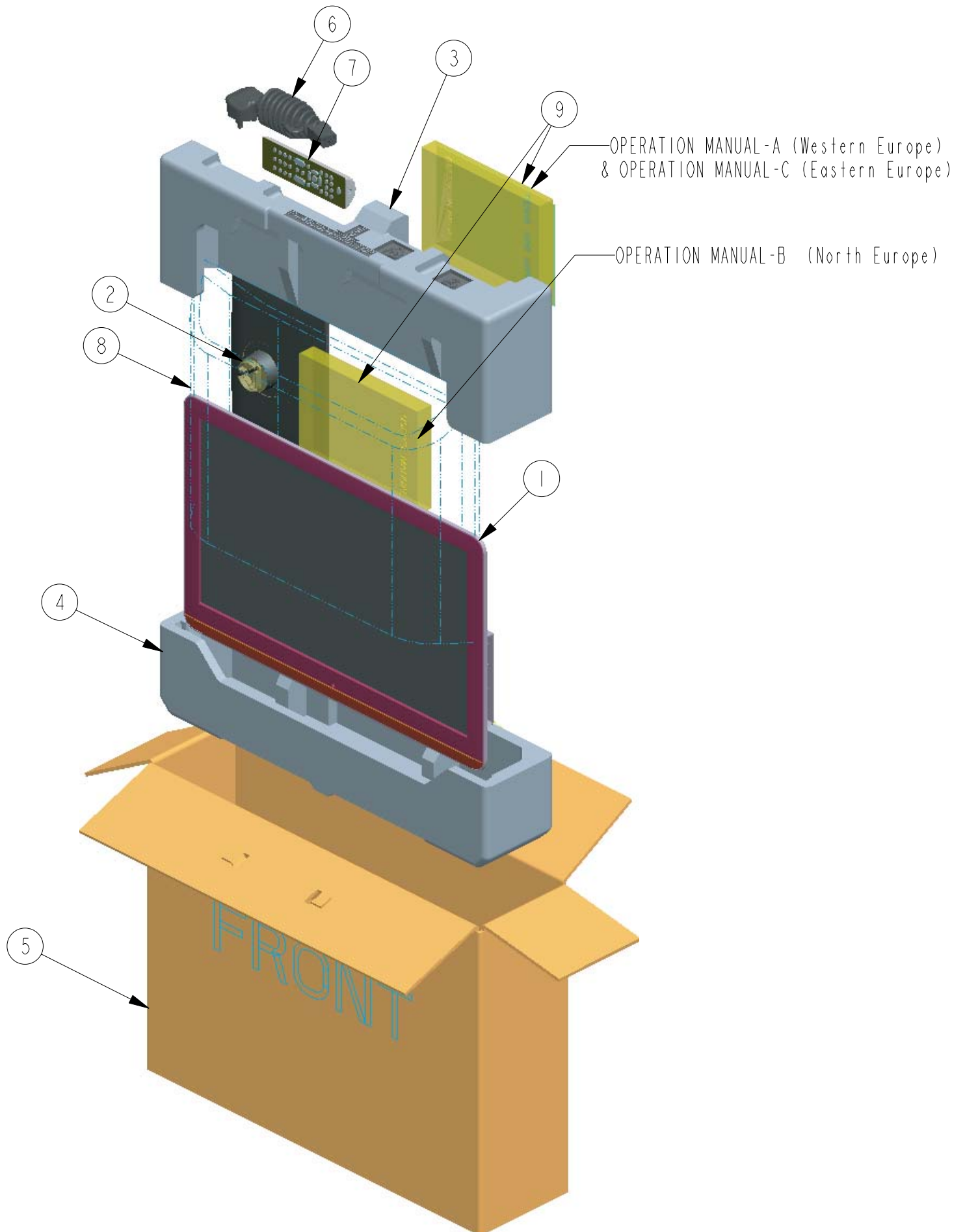
Operation Manual



Quick Setup Guide

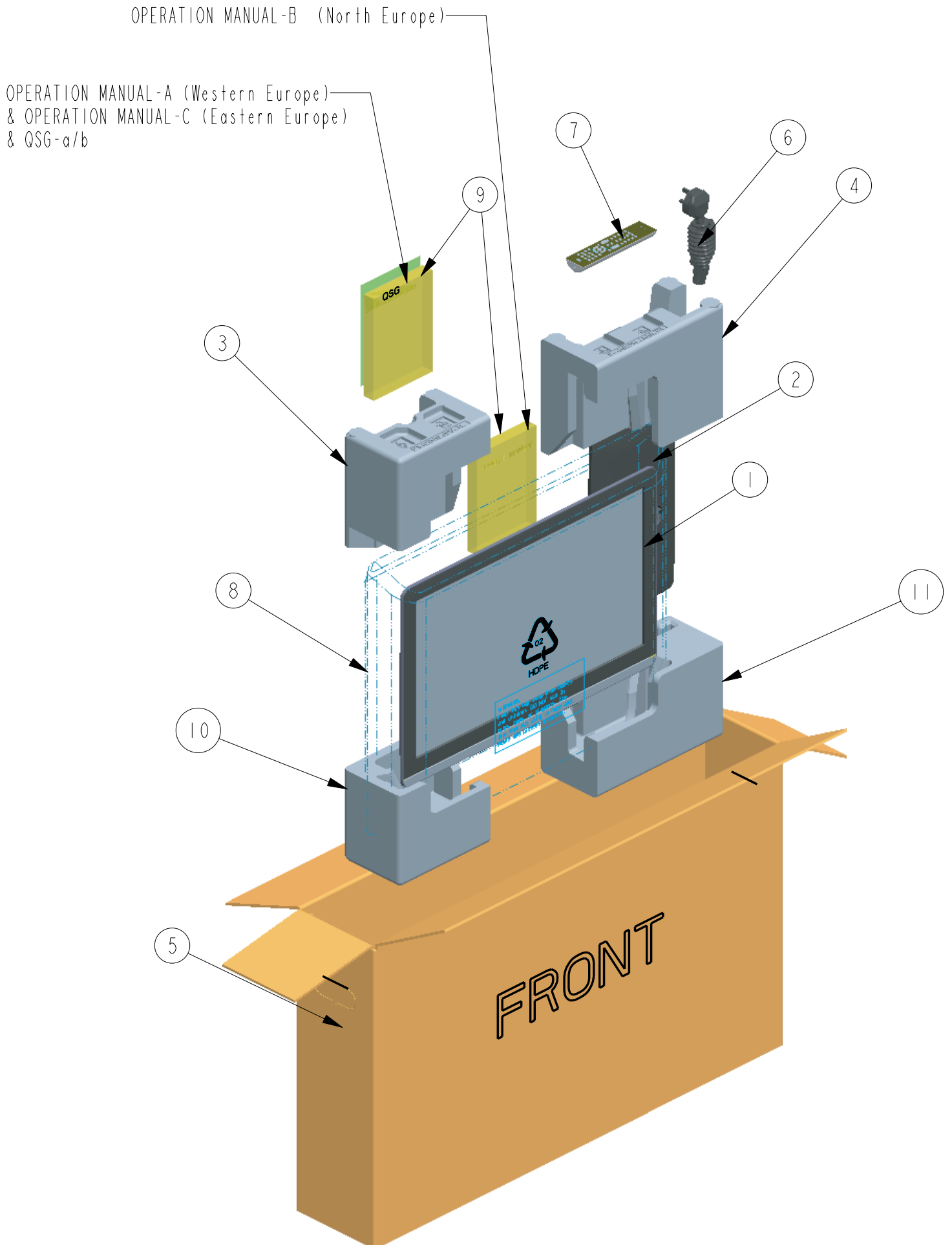


[4] 22" PACKING PARTS



NO.	PARTS CODE	Sharp Code	DESCRIPTION
[2] PACKING PARTS (LC-22LE320E(AUO))			
1			SET BODY
2	705TZA3463A	9JR7050000148	BASE ASSY
3	P44GC004101	9JR4400000061	CUSHION_TOP
4	P44GC004201	9JR4400000062	CUSHION_BTM
5	P44GC004843 2A	9JR4400000063	CARTON
6	089G204A15NLS1	9JR8900000009	POWER CORD 1.5M PE8C5Z1B90A-04B
7	098GRABD2NESPJ	9JR9800000005	REMOTE CONTROL RC-SHARP-420 FOR SHARP
8	Q45T 99609 78	9JR4500000012	EPE COVER FOR MONITOR
9	705TZA4106A	9JR7050000149	DFU ASSY(Western Europe)(Eastern Europe)
9	705TZA4107A	9JR7050000150	DFU ASSY(North Europe)

26" PACKING PARTS



NO.	PARTS CODE	Sharp Code	DESCRIPTION
[2] PACKING PARTS (LC-26LE320E(AUO))			
1			SET BODY
2	705TZA34013		BASE COVER ASSY
2	705TZA1518A		BASE PLATE ASSY
3	P44GE018101		CUSHION_TL
4	P44GE018201		CUSHION_TR
5	705TZA4404A		Carton Assy
6	089G204A15NLS1		POWER CORD 1.5M PE8C5Z1B90A-04B
7	098GRABD2NESPJ	9JR9800000005	REMOTE CONTROL RC-SHARP-420 FOR SHARP
8	P45T 46025		PE BAG(800X650-0.72mm)
9	705TZA4106A	9JR7050000149	DFU ASSY(Western Europe)(Eastern Europe)
9	705TZA4107A	9JR7050000150	DFU ASSY(North Europe)
10	P44GE018301		CUSHION_BL
11	P44GE018401		CUSHION_BR

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